

**MACHINE DISHWASHING DETERGENTS CONTAINING SURFACTANTS WITH
A LOW DYNAMIC SURFACE TENSION**

CROSS REFERENCE TO RELATED APPLICATION

[0001] This application is a continuation under 35 U.S.C. § 365(c) and 35 U.S.C. § 120 of international application PCT/EP02/07821, filed July 13, 2002, the international application not being published in English. This application also claims priority under 35 U.S.C. § 119 of DE 101 36 000.2, filed July 24, 2001, which is incorporated herein by reference in its entirety.

BACKGROUND OF THE INVENTION

[0002] The present invention relates to machine dishwashing detergents and methods of using these compositions. Specifically, the invention relates to machine dishwashing detergents which comprise nonionic surfactants which have particularly low viscosities in aqueous solution.

[0003] Machine dishwashing in domestic dishwashing machines is a process which differs fundamentally from laundry washing in domestic washing machines. Whereas in a washing machine the item to be washed is permanently agitated in the liquor and, in this way, the washing is mechanically assisted, in a dishwashing machine, the rinse liquor is applied by a spraying system to the surfaces to be cleaned. There, the cleaning liquor must itself counteract even stubborn soilings without assistance by mechanical influences. The performance level of machine dishwashing detergents must therefore be much higher than that of conventional textile detergents.

[0004] In addition, there is a trend in machine dishwashing toward ever lower temperatures, ever shorter

rinse cycles and a reduced dosing of detergents for ecological reasons, in some countries it also being necessary to observe restrictions with regard to the use of certain ingredients (for example phosphates).

[0005] The performance requirements of modern machine dishwashing detergents are continually increasing under the abovementioned framework conditions. As a result of these increased performance requirements, there is a continual need for performance-enhanced machine dishwashing detergents which achieve high cleaning performances at a lower concentration, also at lower temperatures and short wash times.

[0006] The object of the present invention was to provide machine dishwashing detergents which meet the increased performance requirements. The compositions to be provided should be superior to conventional compositions, even when compared at a lower concentration, in particular on greasy soilings. In addition, the compositions should be able to be prepared as conventional machine dishwashing detergents ("cleaners") in powder or granule form or as tablets or in pourable supply form, and also in the form of a combination product ("2in1" products which combine detergent and rinse aid, and also "3in1" products, which combine detergent, rinse aid and salt replacement).

[0007] It has now been found that machine dishwashing detergents which satisfy the profile of requirements given above can be provided if they comprise builders and certain nonionic surfactants, and also optionally further ingredients of cleaning compositions.

DESCRIPTION OF THE INVENTION

[0008] The present invention provides machine dishwashing detergents comprising builder(s), surfactant(s), and optionally further ingredients which

comprise 0.1 to 50% by weight of one or more nonionic surfactants which, at a concentration of 0.1 g/l in distilled water, have a dynamic surface tension of less than 60 mNm^{-1} at a frequency of 1 Hz.

[0009] The lower dynamic surface tension of the surfactant at high concentrations brings about a significantly improved run-off behavior of the overall formulation from surfaces treated with the cleaning compositions. The surfactants used according to the invention wet the surfaces rapidly and, in particular, uniformly, so that the film of the clear-rinse solution on the ware runs off uniformly and does not rupture prematurely. In this way, spot- and smear-free surfaces and thus improved clear-rinse results are obtained.

[0010] In preferred embodiments of the present invention, the surfactant has a still lower dynamic surface tension in a highly concentrated aqueous solution. Preference is given here to compositions according to the invention in which the nonionic surfactant(s), at a concentration of 0.1 g/l in distilled water, have a dynamic surface tension of less than 55 mNm^{-1} , preferably of less than 50 mNm^{-1} , at a frequency of 1 Hz.

[0011] Particularly preferred machine dishwashing detergents according to the invention comprise one or more nonionic surfactant(s) which, at a concentration of 0.1 g/l in distilled water, has/have a dynamic surface tension of less than 65 mNm^{-1} , preferably of less than 60 mNm^{-1} , at a frequency of 5 Hz.

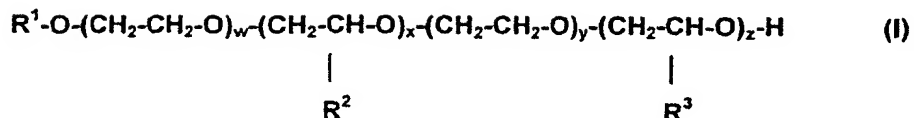
[0012] Irrespective of the dynamic surface tension of the surfactants present according to the invention in the compositions in aqueous solutions, it may be advantageous for certain formulations if the surfactants are liquid at room temperature. As well as the easier processability for compositions in the form of powders or

granules, this has the additional advantage that the surfactants do not have to be melted during processing, as a result of which the production costs can be further reduced.

[0013] Nonionic surfactants which, at a concentration of 0.1 g/l in distilled water, have a dynamic surface tension of less than 60 mNm^{-1} at a frequency of 1 Hz can be of varying molecular structure. Depending on the nature and length of the hydrophobic and of the hydrophilic radical in the molecule, the properties of the surfactants can be controlled to give desirable properties.

[0014] The nonionic surfactants with the above-described properties are used in the compositions according to the invention in amounts of from 0.1 to 50% by weight, in each case based on the total composition. Preferred machine dishwashing detergents according to the invention comprise the nonionic surfactant(s) in amounts of from 0.5 to 40% by weight, preferably from 1 to 30% by weight, particularly preferably from 2.5 to 25% by weight and in particular from 5 to 20% by weight, in each case based on the total composition.

[0015] For the purposes of the present invention, particularly preferred nonionic surfactants have proven to be low-foam nonionic surfactants which have alternating ethylene oxide and alkylene oxide units. Of these, preference is in turn given to surfactants with EO-AO-EO-AO blocks, where in each case one to ten EO and/or AO groups are bonded to one another before a block from the other groups in each case follows. Preference is given here to machine dishwashing detergents according to the invention which comprise, as nonionic surfactant(s), surfactants of the general formula I



in which R^1 is a straight-chain or branched, saturated or mono- or polyunsaturated C_{6-24} -alkyl or -alkenyl radical; each group R^2 and R^3 , independently of one another, is chosen from $-\text{CH}_3$, $-\text{CH}_2\text{CH}_3$, $-\text{CH}_2\text{CH}_2-\text{CH}_3$, $\text{CH}(\text{CH}_3)_2$ and the indices w , x , y , z , independently of one another, are integers from 1 to 6.

[0016] The preferred nonionic surfactants of the formula I can be prepared by known methods from the corresponding alcohols $\text{R}^1\text{-OH}$ and ethylene oxide or alkylene oxide. The radical R^1 in the above formula I can vary depending on the origin of the alcohol. If native sources are used, the radical R^1 has an even number of carbon atoms and is usually unbranched, where the linear radicals from alcohols of native origin having 12 to 18 carbon atoms, e.g. from coconut, palm, tallow fatty or oleyl alcohol, are preferred. Alcohols obtainable from synthetic sources are, for example, the Guerbet alcohols or radicals which are methyl-branched in the 2 position or linear and methyl-branched in the mixture, as are customarily present in oxo alcohol radicals. Irrespective of the nature of the alcohol used for the preparation of the nonionic surfactants present according to the invention in the compositions, preference is given to machine dishwashing detergents according to the invention in which R^1 in formula I is an alkyl radical having 6 to 24, preferably 8 to 20, particularly preferably 9 to 15 and in particular 9 to 11 carbon atoms.

[0017] A suitable alkylene oxide unit which is present in alternating manner relative to the ethylene oxide unit in the preferred nonionic surfactants is, in particular, butylene oxide, as well as propylene oxide. However, further alkylene oxides in which R^2 and R^3 ,

independently of one another, are chosen from $-\text{CH}_2\text{CH}_2-\text{CH}_3$ and $\text{CH}(\text{CH}_3)_2$ are also suitable. Preferred machine dishwashing detergents are characterized in that R^2 and R^3 are a radical $-\text{CH}_3$, w and x, independently of one another, are values of 3 or 4 and y and z, independently of one another, are values of 1 or 2.

[0018] In summary, particular preference is given to using nonionic surfactants in the compositions according to the invention which have a C_{9-15} -alkyl radical having 1 to 4 ethylene oxide units, followed by 1 to 4 propylene oxide units, followed by 1 to 4 ethylene oxide units, followed by 1 to 4 propylene oxide units. These surfactants have the required low dynamic surface tension in aqueous solution and can be used particularly advantageously according to the invention.

[0019] The given carbon chain lengths and degrees of ethoxylation or degrees of alkoxylation are statistical average values which may be an integer or a fraction for a specific product. Due to the preparation process, commercial products of said formulae consist mostly not of an individual representative, but of mixtures, giving rise to average values and consequently fractional values both for the carbon chain lengths and also for the degrees of ethoxylation or degrees of alkoxylation. In the table below, nonionic surfactants which are particularly preferably present in the compositions according to the invention are characterized with regard to the radical R^1 , the radicals R^2 and R^3 , and the indices w, x, y and z. Preferred compositions according to the invention comprise one or more surfactants from the table below or mixtures thereof.

No.	R^1	R^2	R^3	w	x	y	z
1	$\text{CH}_3-(\text{CH}_2)_8-$	CH_3-	CH_3-	1	1	1	1
2	$\text{CH}_3-(\text{CH}_2)_8-$	CH_3-	CH_3-	2	1	1	1
3	$\text{CH}_3-(\text{CH}_2)_8-$	CH_3-	CH_3-	1	2	1	1
4	$\text{CH}_3-(\text{CH}_2)_8-$	CH_3-	CH_3-	1	1	2	1
5	$\text{CH}_3-(\text{CH}_2)_8-$	CH_3-	CH_3-	1	1	1	2
6	$\text{CH}_3-(\text{CH}_2)_8-$	CH_3-	CH_3-	3	1	1	1
7	$\text{CH}_3-(\text{CH}_2)_8-$	CH_3-	CH_3-	1	3	1	1
8	$\text{CH}_3-(\text{CH}_2)_8-$	CH_3-	CH_3-	1	1	3	1
9	$\text{CH}_3-(\text{CH}_2)_8-$	CH_3-	CH_3-	1	1	1	3
10	$\text{CH}_3-(\text{CH}_2)_8-$	CH_3-	CH_3-	4	1	1	1
11	$\text{CH}_3-(\text{CH}_2)_8-$	CH_3-	CH_3-	1	4	1	1
12	$\text{CH}_3-(\text{CH}_2)_8-$	CH_3-	CH_3-	1	1	4	1
13	$\text{CH}_3-(\text{CH}_2)_8-$	CH_3-	CH_3-	1	1	1	4
14	$\text{CH}_3-(\text{CH}_2)_8-$	CH_3-	CH_3-	1	2	2	1
15	$\text{CH}_3-(\text{CH}_2)_8-$	CH_3-	CH_3-	1	2	1	2

16	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	1	1	2	2
17	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	2	2	1	1
18	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	2	1	2	1
19	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	2	1	1	2
20	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	1	3	3	1
21	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	1	3	1	3
22	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	1	1	3	3
23	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	3	3	1	1
24	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	3	1	3	1
25	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	3	1	1	3
26	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	1	4	4	1
27	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	1	4	1	4
28	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	1	1	4	4
29	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	4	1	1
30	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	1	4	1
31	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	1	1	4
32	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	1	1	2	3
33	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	1	1	3	2
34	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	1	2	3	1
35	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	1	3	2	1
36	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	1	2	1	3
37	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	1	3	1	2
38	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	2	1	1	3
39	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	2	1	3	1
40	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	2	3	1	1
41	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	3	1	1	2
42	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	3	1	2	1
43	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	3	2	1	1
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46	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	1	2	4	1
47	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	1	4	2	1
48	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	1	2	1	4
49	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	1	4	1	2
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52	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	2	4	1	1

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54	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	1	2	1
55	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	2	1	1
56	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	1	1	4	3
57	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	1	1	3	4
58	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	1	4	3	1
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62	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	1	1	3
63	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	1	3	1
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66	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	3	1	4	1
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96	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	2	1	4	2
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137	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	3	3	1
138	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	3	1	3
139	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	1	3	3
140	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	3	3	4	2
141	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	3	3	2	4
142	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	3	4	3	2
143	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	3	2	3	4
144	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	3	4	2	3
145	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	3	2	4	3
146	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	3	3	2
147	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	3	2	3
148	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	2	3	3
149	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	2	3	3	4
150	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	2	3	4	3
151	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	2	4	3	3
152	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	4	1	2
153	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	4	2	1
154	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	1	4	2
155	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	2	4	1
156	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	1	2	4
157	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	2	1	4
158	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	1	4	4	2
159	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	1	4	2	4
160	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	1	2	4	4
161	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	2	4	4	1
162	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	2	4	1	4
163	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	2	1	4	4

164	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	4	1	3
165	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	4	3	1
166	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	1	4	3
167	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	3	4	1
168	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	1	3	4
169	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	3	1	4
170	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	1	4	4	3
171	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	1	4	3	4
172	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	1	3	4	4
173	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	3	4	4	1
174	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	3	4	1	4
175	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	3	1	4	4
176	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	4	3	2
177	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	4	2	3
178	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	3	4	2
179	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	2	4	3
180	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	3	2	4
181	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	2	3	4
182	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	3	4	4	2
183	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	3	4	2	4
184	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	3	2	4	4
185	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	2	4	4	3
186	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	2	4	3	4
187	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	2	3	4	4
188	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	1	2	3	4
189	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	1	2	4	3
190	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	1	3	2	4
191	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	1	3	4	2
192	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	1	4	2	3
193	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	1	4	3	2
194	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	2	1	3	4
195	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	2	1	4	3
196	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	2	3	1	4
197	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	2	3	4	1
198	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	2	4	1	3
199	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	2	4	3	1
200	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	3	1	2	4

201	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	3	1	4	2
202	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	3	2	1	4
203	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	3	2	4	1
204	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	3	4	1	2
205	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	3	4	2	1
206	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	1	2	3
207	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	1	3	2
208	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	2	1	3
209	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	2	3	1
210	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	3	1	2
211	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	3	2	1
212	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	2	3	3	2
213	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	2	3	2	3
214	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	2	2	3	3
215	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	3	3	2	2
216	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	3	2	3	2
217	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	3	2	2	3
218	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	2	4	4	2
219	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	2	4	2	4
220	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	2	2	4	4
221	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	4	2	2
222	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	2	4	2
223	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	2	2	4
224	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	3	4	4	3
225	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	3	4	3	4
226	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	3	3	4	4
227	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	4	3	3
228	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	3	4	3
229	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	3	3	4
230	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	1	1	1
231	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	2	1	1	1
232	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	2	1	1
233	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	1	2	1
234	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	1	1	2
235	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	3	1	1	1
236	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	3	1	1
237	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	1	3	1

238	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	1	1	3
239	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	4	1	1	1
240	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	4	1	1
241	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	1	4	1
242	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	1	1	4
243	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	2	2	1
244	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	2	1	2
245	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	1	2	2
246	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	2	2	1	1
247	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	2	1	2	1
248	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	2	1	1	2
249	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	3	3	1
250	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	3	1	3
251	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	1	3	3
252	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	3	3	1	1
253	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	3	1	3	1
254	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	3	1	1	3
255	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	4	4	1
256	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	4	1	4
257	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	1	4	4
258	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	4	4	1	1
259	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	4	1	4	1
260	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	4	1	1	4
261	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	1	2	3
262	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	1	3	2
263	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	2	3	1
264	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	3	2	1
265	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	2	1	3
266	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	3	1	2
267	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	2	1	1	3
268	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	2	1	3	1
269	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	2	3	1	1
270	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	3	1	1	2
271	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	3	1	2	1
272	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	3	2	1	1
273	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	1	2	4
274	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	1	4	2

275	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	2	4	1
276	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	4	2	1
277	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	2	1	4
278	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	4	1	2
279	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	2	1	1	4
280	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	2	1	4	1
281	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	2	4	1	1
282	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	4	1	1	2
283	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	4	1	2	1
284	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	4	2	1	1
285	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	1	4	3
286	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	1	3	4
287	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	4	3	1
288	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	3	4	1
289	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	4	1	3
290	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	3	1	4
291	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	4	1	1	3
292	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	4	1	3	1
293	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	4	3	1	1
294	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	3	1	1	4
295	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	3	1	4	1
296	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	3	4	1	1
297	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	2	2	2
298	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	2	1	2	2
299	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	2	2	1	2
300	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	2	2	2	1
301	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	3	3	3
302	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	3	1	3	3
303	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	3	3	1	3
304	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	3	3	3	1
305	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	4	4	4
306	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	4	1	4	4
307	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	4	4	1	4
308	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	4	4	4	1
309	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	2	2	1	3
310	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	2	2	3	1
311	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	2	1	2	3

312	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	2	3	2	1
313	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	2	1	3	2
314	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	2	3	1	2
315	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	2	2	3
316	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	2	3	2
317	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	3	2	2
318	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	3	2	2	1
319	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	3	2	1	2
320	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	3	1	2	2
321	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	2	2	1	4
322	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	2	2	4	1
323	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	2	1	2	4
324	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	2	4	2	1
325	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	2	1	4	2
326	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	2	4	1	2
327	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	2	2	4
328	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	2	4	2
329	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	4	2	2
330	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	4	2	2	1
331	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	4	2	1	2
332	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	4	1	2	2
333	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	2	2	4	3
334	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	2	2	3	4
335	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	2	4	2	3
336	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	2	3	2	4
337	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	2	4	3	2
338	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	2	3	4	2
339	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	4	2	2	3
340	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	4	2	3	2
341	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	4	3	2	2
342	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	3	2	2	4
343	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	3	2	4	2
344	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	3	4	2	2
345	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	3	3	1	2
346	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	3	3	2	1
347	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	3	1	3	2
348	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	3	2	3	1

349	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	3	1	2	3
350	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	3	2	1	3
351	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	3	3	2
352	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	3	2	3
353	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	1	2	3	3
354	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	2	3	3	1
355	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	2	3	1	3
356	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	2	1	3	3
357	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	3	3	1	4
358	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	3	3	4	1
359	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	3	1	3	4
360	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	3	4	3	1
361	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	3	1	4	3
362	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	3	4	1	3
363	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	3	3	4
364	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	3	4	3
365	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	1	4	3	3
366	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	4	3	3	1
367	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	4	3	1	3
368	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	4	1	3	3
369	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	3	3	4	2
370	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	3	3	2	4
371	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	3	4	3	2
372	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	3	2	3	4
373	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	3	4	2	3
374	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	3	2	4	3
375	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	4	3	3	2
376	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	4	3	2	3
377	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	4	2	3	3
378	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	2	3	3	4
379	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	2	3	4	3
380	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	2	4	3	3
381	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	4	4	1	2
382	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	4	4	2	1
383	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	4	1	4	2
384	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	4	2	4	1
385	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	4	1	2	4

386	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	4	2	1	4
387	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	4	4	2
388	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	4	2	4
389	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	2	4	4
390	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	2	4	4	1
391	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	2	4	1	4
392	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	2	1	4	4
393	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	4	4	1	3
394	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	4	4	3	1
395	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	4	1	4	3
396	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	4	3	4	1
397	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	4	1	3	4
398	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	4	3	1	4
399	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	4	4	3
400	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	4	3	4
401	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	3	4	4
402	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	3	4	4	1
403	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	3	4	1	4
404	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	3	1	4	4
405	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	4	4	3	2
406	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	4	4	2	3
407	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	4	3	4	2
408	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	4	2	4	3
409	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	4	3	2	4
410	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	4	2	3	4
411	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	3	4	4	2
412	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	3	4	2	4
413	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	3	2	4	4
414	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	2	4	4	3
415	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	2	4	3	4
416	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	2	3	4	4
417	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	2	3	4
418	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	2	4	3
419	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	3	2	4
420	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	3	4	2
421	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	4	2	3
422	CH ₃ -(CH ₂) ₉ -	CH ₃ -	CH ₃ -	1	4	3	2

423	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	2	1	3	4
424	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	2	1	4	3
425	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	2	3	1	4
426	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	2	3	4	1
427	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	2	4	1	3
428	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	2	4	3	1
429	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	3	1	2	4
430	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	3	1	4	2
431	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	3	2	1	4
432	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	3	2	4	1
433	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	3	4	1	2
434	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	3	4	2	1
435	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	1	2	3
436	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	1	3	2
437	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	2	1	3
438	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	2	3	1
439	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	3	1	2
440	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	3	2	1
441	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	2	3	3	2
442	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	2	3	2	3
443	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	2	2	3	3
444	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	3	3	2	2
445	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	3	2	3	2
446	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	3	2	2	3
447	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	2	4	4	2
448	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	2	4	2	4
449	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	2	2	4	4
450	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	4	2	2
451	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	2	4	2
452	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	2	2	4
453	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	3	4	4	3
454	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	3	4	3	4
455	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	3	3	4	4
456	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	4	3	3
457	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	3	4	3
458	CH ₃ -(CH ₂) ₈ -	CH ₃ -	CH ₃ -	4	3	3	4
459	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	1	1	1

460	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	1	1	1
461	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	2	1	1
462	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	1	2	1
463	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	1	1	2
464	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	1	1	1
465	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	3	1	1
466	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	1	3	1
467	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	1	1	3
468	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	1	1	1
469	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	4	1	1
470	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	1	4	1
471	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	1	1	4
472	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	2	2	1
473	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	2	1	2
474	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	1	2	2
475	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	2	1	1
476	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	1	2	1
477	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	1	1	2
478	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	3	3	1
479	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	3	1	3
480	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	1	3	3
481	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	3	1	1
482	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	1	3	1
483	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	1	1	3
484	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	4	4	1
485	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	4	1	4
486	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	1	4	4
487	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	4	1	1
488	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	1	4	1
489	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	1	1	4
490	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	1	2	3
491	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	1	3	2
492	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	2	3	1
493	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	3	2	1
494	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	2	1	3
495	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	3	1	2
496	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	1	1	3

497	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	1	3	1
498	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	3	1	1
499	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	1	1	2
500	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	1	2	1
501	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	2	1	1
502	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	1	2	4
503	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	1	4	2
504	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	2	4	1
505	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	4	2	1
506	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	2	1	4
507	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	4	1	2
508	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	1	1	4
509	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	1	4	1
510	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	4	1	1
511	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	1	1	2
512	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	1	2	1
513	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	2	1	1
514	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	1	4	3
515	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	1	3	4
516	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	4	3	1
517	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	3	4	1
518	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	4	1	3
519	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	3	1	4
520	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	1	1	3
521	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	1	3	1
522	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	3	1	1
523	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	1	1	4
524	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	1	4	1
525	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	4	1	1
526	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	2	2	2
527	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	1	2	2
528	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	2	1	2
529	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	2	2	1
530	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	3	3	3
531	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	1	3	3
532	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	3	1	3
533	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	3	3	1

534	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	4	4	4
535	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	1	4	4
536	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	4	1	4
537	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	4	4	1
538	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	2	1	3
539	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	2	3	1
540	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	1	2	3
541	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	3	2	1
542	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	1	3	2
543	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	3	1	2
544	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	2	2	3
545	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	2	3	2
546	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	3	2	2
547	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	2	2	1
548	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	2	1	2
549	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	1	2	2
550	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	2	1	4
551	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	2	4	1
552	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	1	2	4
553	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	4	2	1
554	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	1	4	2
555	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	4	1	2
556	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	2	2	4
557	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	2	4	2
558	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	4	2	2
559	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	2	2	1
560	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	2	1	2
561	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	1	2	2
562	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	2	4	3
563	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	2	3	4
564	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	4	2	3
565	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	3	2	4
566	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	4	3	2
567	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	3	4	2
568	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	2	2	3
569	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	2	3	2
570	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	3	2	2

571	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	2	2	4
572	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	2	4	2
573	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	4	2	2
574	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	3	1	2
575	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	3	2	1
576	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	1	3	2
577	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	2	3	1
578	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	1	2	3
579	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	2	1	3
580	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	3	3	2
581	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	3	2	3
582	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	2	3	3
583	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	3	3	1
584	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	3	1	3
585	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	1	3	3
586	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	3	1	4
587	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	3	4	1
588	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	1	3	4
589	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	4	3	1
590	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	1	4	3
591	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	4	1	3
592	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	3	3	4
593	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	3	4	3
594	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	4	3	3
595	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	3	3	1
596	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	3	1	3
597	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	1	3	3
598	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	3	4	2
599	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	3	2	4
600	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	4	3	2
601	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	2	3	4
602	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	4	2	3
603	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	2	4	3
604	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	3	3	2
605	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	3	2	3
606	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	2	3	3
607	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	3	3	4

608	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	3	4	3
609	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	4	3	3
610	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	4	1	2
611	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	4	2	1
612	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	1	4	2
613	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	2	4	1
614	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	1	2	4
615	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	2	1	4
616	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	4	4	2
617	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	4	2	4
618	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	2	4	4
619	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	4	4	1
620	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	4	1	4
621	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	1	4	4
622	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	4	1	3
623	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	4	3	1
624	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	1	4	3
625	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	3	4	1
626	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	1	3	4
627	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	3	1	4
628	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	4	4	3
629	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	4	3	4
630	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	3	4	4
631	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	4	4	1
632	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	4	1	4
633	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	1	4	4
634	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	4	3	2
635	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	4	2	3
636	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	3	4	2
637	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	2	4	3
638	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	3	2	4
639	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	2	3	4
640	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	4	4	2
641	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	4	2	4
642	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	2	4	4
643	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	4	4	3
644	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	4	3	4

645	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	3	4	4
646	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	2	3	4
647	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	2	4	3
648	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	3	2	4
649	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	3	4	2
650	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	4	2	3
651	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	1	4	3	2
652	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	1	3	4
653	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	1	4	3
654	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	3	1	4
655	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	3	4	1
656	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	4	1	3
657	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	4	3	1
658	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	1	2	4
659	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	1	4	2
660	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	2	1	4
661	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	2	4	1
662	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	4	1	2
663	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	4	2	1
664	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	1	2	3
665	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	1	3	2
666	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	2	1	3
667	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	2	3	1
668	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	3	1	2
669	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	3	2	1
670	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	3	3	2
671	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	3	2	3
672	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	2	3	3
673	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	3	2	2
674	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	2	3	2
675	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	2	2	3
676	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	4	4	2
677	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	4	2	4
678	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	2	2	4	4
679	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	4	2	2
680	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	2	4	2
681	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	2	2	4

682	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	4	4	3
683	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	4	3	4
684	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	3	3	4	4
685	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	4	3	3
686	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	3	4	3
687	CH ₃ -(CH ₂) ₁₀ -	CH ₃ -	CH ₃ -	4	3	3	4
688	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	1	1	1
689	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	1	1	1
690	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	2	1	1
691	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	1	2	1
692	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	1	1	2
693	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	1	1	1
694	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	3	1	1
695	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	1	3	1
696	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	1	1	3
697	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	1	1	1
698	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	4	1	1
699	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	1	4	1
700	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	1	1	4
701	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	2	2	1
702	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	2	1	2
703	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	1	2	2
704	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	2	1	1
705	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	1	2	1
706	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	1	1	2
707	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	3	3	1
708	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	3	1	3
709	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	1	3	3
710	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	3	1	1
711	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	1	3	1
712	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	1	1	3
713	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	4	4	1
714	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	4	1	4
715	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	1	4	4
716	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	4	1	1
717	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	1	4	1
718	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	1	1	4

719	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	1	2	3
720	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	1	3	2
721	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	2	3	1
722	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	3	2	1
723	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	2	1	3
724	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	3	1	2
725	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	1	1	3
726	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	1	3	1
727	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	3	1	1
728	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	1	1	2
729	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	1	2	1
730	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	2	1	1
731	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	1	2	4
732	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	1	4	2
733	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	2	4	1
734	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	4	2	1
735	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	2	1	4
736	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	4	1	2
737	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	1	1	4
738	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	1	4	1
739	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	4	1	1
740	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	1	1	2
741	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	1	2	1
742	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	2	1	1
743	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	1	4	3
744	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	1	3	4
745	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	4	3	1
746	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	3	4	1
747	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	4	1	3
748	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	3	1	4
749	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	1	1	3
750	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	1	3	1
751	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	3	1	1
752	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	1	1	4
753	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	1	4	1
754	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	4	1	1
755	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	2	2	2

756	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	1	2	2
757	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	2	1	2
758	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	2	2	1
759	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	3	3	3
760	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	1	3	3
761	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	3	1	3
762	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	3	3	1
763	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	4	4	4
764	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	1	4	4
765	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	4	1	4
766	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	4	4	1
767	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	2	1	3
768	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	2	3	1
769	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	1	2	3
770	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	3	2	1
771	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	1	3	2
772	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	3	1	2
773	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	2	2	3
774	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	2	3	2
775	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	3	2	2
776	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	2	2	1
777	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	2	1	2
778	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	1	2	2
779	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	2	1	4
780	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	2	4	1
781	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	1	2	4
782	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	4	2	1
783	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	1	4	2
784	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	4	1	2
785	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	2	2	4
786	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	2	4	2
787	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	4	2	2
788	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	2	2	1
789	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	2	1	2
790	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	1	2	2
791	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	2	4	3
792	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	2	3	4

793	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	4	2	3
794	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	3	2	4
795	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	4	3	2
796	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	3	4	2
797	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	2	2	3
798	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	2	3	2
799	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	3	2	2
800	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	2	2	4
801	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	2	4	2
802	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	4	2	2
803	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	3	1	2
804	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	3	2	1
805	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	1	3	2
806	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	2	3	1
807	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	1	2	3
808	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	2	1	3
809	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	3	3	2
810	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	3	2	3
811	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	2	3	3
812	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	3	3	1
813	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	3	1	3
814	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	1	3	3
815	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	3	1	4
816	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	3	4	1
817	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	1	3	4
818	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	4	3	1
819	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	1	4	3
820	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	4	1	3
821	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	3	3	4
822	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	3	4	3
823	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	4	3	3
824	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	3	3	1
825	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	3	1	3
826	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	1	3	3
827	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	3	4	2
828	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	3	2	4
829	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	4	3	2

830	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	2	3	4
831	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	4	2	3
832	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	2	4	3
833	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	3	3	2
834	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	3	2	3
835	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	2	3	3
836	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	3	3	4
837	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	3	4	3
838	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	4	3	3
839	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	4	1	2
840	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	4	2	1
841	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	1	4	2
842	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	2	4	1
843	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	1	2	4
844	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	2	1	4
845	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	4	4	2
846	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	4	2	4
847	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	2	4	4
848	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	4	4	1
849	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	4	1	4
850	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	1	4	4
851	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	4	1	3
852	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	4	3	1
853	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	1	4	3
854	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	3	4	1
855	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	1	3	4
856	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	3	1	4
857	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	4	4	3
858	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	4	3	4
859	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	3	4	4
860	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	4	4	1
861	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	4	1	4
862	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	1	4	4
863	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	4	3	2
864	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	4	2	3
865	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	3	4	2
866	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	2	4	3

867	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	3	2	4
868	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	2	3	4
869	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	4	4	2
870	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	4	2	4
871	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	2	4	4
872	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	4	4	3
873	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	4	3	4
874	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	3	4	4
875	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	2	3	4
876	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	2	4	3
877	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	3	2	4
878	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	3	4	2
879	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	4	2	3
880	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	1	4	3	2
881	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	1	3	4
882	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	1	4	3
883	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	3	1	4
884	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	3	4	1
885	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	4	1	3
886	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	4	3	1
887	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	1	2	4
888	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	1	4	2
889	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	2	1	4
890	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	2	4	1
891	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	4	1	2
892	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	4	2	1
893	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	1	2	3
894	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	1	3	2
895	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	2	1	3
896	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	2	3	1
897	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	3	1	2
898	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	3	2	1
899	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	3	3	2
900	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	3	2	3
901	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	2	3	3
902	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	3	2	2
903	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	2	3	2

904	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	2	2	3
905	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	4	4	2
906	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	4	2	4
907	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	2	2	4	4
908	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	4	2	2
909	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	2	4	2
910	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	2	2	4
911	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	4	4	3
912	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	4	3	4
913	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	3	3	4	4
914	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	4	3	3
915	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	3	4	3
916	CH ₃ -(CH ₂) ₁₁ -	CH ₃ -	CH ₃ -	4	3	3	4
917	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	1	1	1
918	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	1	1	1
919	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	2	1	1
920	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	1	2	1
921	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	1	1	2
922	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	1	1	1
923	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	3	1	1
924	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	1	3	1
925	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	1	1	3
926	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	1	1	1
927	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	4	1	1
928	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	1	4	1
929	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	1	1	4
930	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	2	2	1
931	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	2	1	2
932	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	1	2	2
933	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	2	1	1
934	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	1	2	1
935	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	1	1	2
936	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	3	3	1
937	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	3	1	3
938	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	1	3	3
939	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	3	1	1
940	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	1	3	1

941	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	1	1	3
942	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	4	4	1
943	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	4	1	4
944	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	1	4	4
945	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	4	1	1
946	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	1	4	1
947	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	1	1	4
948	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	1	2	3
949	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	1	3	2
950	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	2	3	1
951	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	3	2	1
952	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	2	1	3
953	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	3	1	2
954	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	1	1	3
955	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	1	3	1
956	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	3	1	1
957	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	1	1	2
958	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	1	2	1
959	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	2	1	1
960	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	1	2	4
961	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	1	4	2
962	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	2	4	1
963	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	4	2	1
964	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	2	1	4
965	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	4	1	2
966	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	1	1	4
967	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	1	4	1
968	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	4	1	1
969	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	1	1	2
970	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	1	2	1
971	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	2	1	1
972	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	1	4	3
973	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	1	3	4
974	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	4	3	1
975	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	3	4	1
976	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	4	1	3
977	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	3	1	4

978	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	1	1	3
979	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	1	3	1
980	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	3	1	1
981	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	1	1	4
982	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	1	4	1
983	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	4	1	1
984	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	2	2	2
985	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	1	2	2
986	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	2	1	2
987	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	2	2	1
988	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	3	3	3
989	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	1	3	3
990	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	3	1	3
991	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	3	3	1
992	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	4	4	4
993	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	1	4	4
994	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	4	1	4
995	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	4	4	1
996	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	2	1	3
997	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	2	3	1
998	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	1	2	3
999	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	3	2	1
1000	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	1	3	2
1001	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	3	1	2
1002	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	2	2	3
1003	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	2	3	2
1004	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	3	2	2
1005	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	2	2	1
1006	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	2	1	2
1007	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	1	2	2
1008	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	2	1	4
1009	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	2	4	1
1010	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	1	2	4
1011	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	4	2	1
1012	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	1	4	2
1013	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	4	1	2
1014	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	2	2	4

1015	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	2	4	2
1016	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	4	2	2
1017	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	2	2	1
1018	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	2	1	2
1019	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	1	2	2
1020	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	2	4	3
1021	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	2	3	4
1022	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	4	2	3
1023	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	3	2	4
1024	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	4	3	2
1025	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	3	4	2
1026	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	2	2	3
1027	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	2	3	2
1028	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	3	2	2
1029	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	2	2	4
1030	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	2	4	2
1031	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	4	2	2
1032	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	3	1	2
1033	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	3	2	1
1034	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	1	3	2
1035	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	2	3	1
1036	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	1	2	3
1037	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	2	1	3
1038	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	3	3	2
1039	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	3	2	3
1040	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	2	3	3
1041	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	3	3	1
1042	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	3	1	3
1043	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	1	3	3
1044	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	3	1	4
1045	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	3	4	1
1046	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	1	3	4
1047	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	4	3	1
1048	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	1	4	3
1049	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	4	1	3
1050	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	3	3	4
1051	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	3	4	3

1052	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	4	3	3
1053	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	3	3	1
1054	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	3	1	3
1055	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	1	3	3
1056	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	3	4	2
1057	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	3	2	4
1058	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	4	3	2
1059	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	2	3	4
1060	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	4	2	3
1061	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	2	4	3
1062	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	3	3	2
1063	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	3	2	3
1064	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	2	3	3
1065	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	3	3	4
1066	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	3	4	3
1067	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	4	3	3
1068	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	4	1	2
1069	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	4	2	1
1070	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	1	4	2
1071	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	2	4	1
1072	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	1	2	4
1073	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	2	1	4
1074	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	4	4	2
1075	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	4	2	4
1076	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	2	4	4
1077	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	4	4	1
1078	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	4	1	4
1079	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	1	4	4
1080	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	4	1	3
1081	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	4	3	1
1082	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	1	4	3
1083	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	3	4	1
1084	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	1	3	4
1085	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	3	1	4
1086	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	4	4	3
1087	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	4	3	4
1088	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	3	4	4

1089	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	4	4	1
1090	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	4	1	4
1091	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	1	4	4
1092	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	4	3	2
1093	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	4	2	3
1094	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	3	4	2
1095	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	2	4	3
1096	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	3	2	4
1097	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	2	3	4
1098	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	4	4	2
1099	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	4	2	4
1100	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	2	4	4
1101	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	4	4	3
1102	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	4	3	4
1103	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	3	4	4
1104	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	2	3	4
1105	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	2	4	3
1106	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	3	2	4
1107	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	3	4	2
1108	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	4	2	3
1109	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	1	4	3	2
1110	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	1	3	4
1111	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	1	4	3
1112	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	3	1	4
1113	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	3	4	1
1114	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	4	1	3
1115	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	4	3	1
1116	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	1	2	4
1117	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	1	4	2
1118	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	2	1	4
1119	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	2	4	1
1120	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	4	1	2
1121	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	4	2	1
1122	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	1	2	3
1123	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	1	3	2
1124	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	2	1	3
1125	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	2	3	1

1126	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	3	1	2
1127	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	3	2	1
1128	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	3	3	2
1129	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	3	2	3
1130	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	2	3	3
1131	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	3	2	2
1132	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	2	3	2
1133	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	2	2	3
1134	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	4	4	2
1135	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	4	2	4
1136	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	2	2	4	4
1137	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	4	2	2
1138	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	2	4	2
1139	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	2	2	4
1140	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	4	4	3
1141	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	4	3	4
1142	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	3	3	4	4
1143	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	4	3	3
1144	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	3	4	3
1145	CH ₃ -(CH ₂) ₁₂ -	CH ₃ -	CH ₃ -	4	3	3	4
1146	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	1	1	1
1147	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	1	1	1
1148	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	2	1	1
1149	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	1	2	1
1150	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	1	1	2
1151	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	1	1	1
1152	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	3	1	1
1153	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	1	3	1
1154	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	1	1	3
1155	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	1	1	1
1156	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	4	1	1
1157	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	1	4	1
1158	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	1	1	4
1159	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	2	2	1
1160	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	2	1	2
1161	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	1	2	2
1162	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	2	1	1

1163	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	1	2	1
1164	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	1	1	2
1165	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	3	3	1
1166	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	3	1	3
1167	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	1	3	3
1168	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	3	1	1
1169	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	1	3	1
1170	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	1	1	3
1171	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	4	4	1
1172	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	4	1	4
1173	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	1	4	4
1174	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	4	1	1
1175	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	1	4	1
1176	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	1	1	4
1177	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	1	2	3
1178	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	1	3	2
1179	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	2	3	1
1180	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	3	2	1
1181	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	2	1	3
1182	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	3	1	2
1183	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	1	1	3
1184	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	1	3	1
1185	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	3	1	1
1186	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	1	1	2
1187	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	1	2	1
1188	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	2	1	1
1189	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	1	2	4
1190	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	1	4	2
1191	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	2	4	1
1192	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	4	2	1
1193	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	2	1	4
1194	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	4	1	2
1195	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	1	1	4
1196	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	1	4	1
1197	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	4	1	1
1198	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	1	1	2
1199	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	1	2	1

1200	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	2	1	1
1201	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	1	4	3
1202	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	1	3	4
1203	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	4	3	1
1204	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	3	4	1
1205	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	4	1	3
1206	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	3	1	4
1207	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	1	1	3
1208	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	1	3	1
1209	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	3	1	1
1210	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	1	1	4
1211	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	1	4	1
1212	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	4	1	1
1213	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	2	2	2
1214	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	1	2	2
1215	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	2	1	2
1216	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	2	2	1
1217	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	3	3	3
1218	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	1	3	3
1219	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	3	1	3
1220	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	3	3	1
1221	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	4	4	4
1222	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	1	4	4
1223	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	4	1	4
1224	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	4	4	1
1225	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	2	1	3
1226	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	2	3	1
1227	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	1	2	3
1228	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	3	2	1
1229	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	1	3	2
1230	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	3	1	2
1231	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	2	2	3
1232	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	2	3	2
1233	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	3	2	2
1234	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	2	2	1
1235	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	2	1	2
1236	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	1	2	2

1237	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	2	1	4
1238	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	2	4	1
1239	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	1	2	4
1240	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	4	2	1
1241	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	1	4	2
1242	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	4	1	2
1243	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	2	2	4
1244	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	2	4	2
1245	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	4	2	2
1246	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	2	2	1
1247	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	2	1	2
1248	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	1	2	2
1249	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	2	4	3
1250	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	2	3	4
1251	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	4	2	3
1252	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	3	2	4
1253	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	4	3	2
1254	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	3	4	2
1255	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	2	2	3
1256	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	2	3	2
1257	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	3	2	2
1258	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	2	2	4
1259	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	2	4	2
1260	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	4	2	2
1261	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	3	1	2
1262	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	3	2	1
1263	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	1	3	2
1264	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	2	3	1
1265	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	1	2	3
1266	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	2	1	3
1267	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	3	3	2
1268	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	3	2	3
1269	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	2	3	3
1270	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	3	3	1
1271	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	3	1	3
1272	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	1	3	3
1273	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	3	1	4

1274	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	3	4	1
1275	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	1	3	4
1276	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	4	3	1
1277	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	1	4	3
1278	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	4	1	3
1279	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	3	3	4
1280	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	3	4	3
1281	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	4	3	3
1282	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	3	3	1
1283	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	3	1	3
1284	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	1	3	3
1285	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	3	4	2
1286	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	3	2	4
1287	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	4	3	2
1288	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	2	3	4
1289	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	4	2	3
1290	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	2	4	3
1291	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	3	3	2
1292	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	3	2	3
1293	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	2	3	3
1294	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	3	3	4
1295	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	3	4	3
1296	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	4	3	3
1297	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	4	1	2
1298	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	4	2	1
1299	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	1	4	2
1300	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	2	4	1
1301	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	1	2	4
1302	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	2	1	4
1303	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	4	4	2
1304	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	4	2	4
1305	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	2	4	4
1306	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	4	4	1
1307	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	4	1	4
1308	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	1	4	4
1309	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	4	1	3
1310	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	4	3	1

1311	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	1	4	3
1312	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	3	4	1
1313	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	1	3	4
1314	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	3	1	4
1315	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	4	4	3
1316	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	4	3	4
1317	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	3	4	4
1318	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	4	4	1
1319	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	4	1	4
1320	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	1	4	4
1321	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	4	3	2
1322	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	4	2	3
1323	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	3	4	2
1324	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	2	4	3
1325	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	3	2	4
1326	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	2	3	4
1327	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	4	4	2
1328	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	4	2	4
1329	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	2	4	4
1330	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	4	4	3
1331	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	4	3	4
1332	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	3	4	4
1333	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	2	3	4
1334	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	2	4	3
1335	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	3	2	4
1336	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	3	4	2
1337	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	4	2	3
1338	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	1	4	3	2
1339	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	1	3	4
1340	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	1	4	3
1341	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	3	1	4
1342	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	3	4	1
1343	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	4	1	3
1344	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	4	3	1
1345	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	1	2	4
1346	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	1	4	2
1347	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	2	1	4

1348	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	2	4	1
1349	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	4	1	2
1350	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	4	2	1
1351	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	1	2	3
1352	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	1	3	2
1353	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	2	1	3
1354	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	2	3	1
1355	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	3	1	2
1356	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	3	2	1
1357	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	3	3	2
1358	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	3	2	3
1359	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	2	3	3
1360	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	3	2	2
1361	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	2	3	2
1362	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	2	2	3
1363	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	4	4	2
1364	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	4	2	4
1365	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	2	2	4	4
1366	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	4	2	2
1367	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	2	4	2
1368	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	2	2	4
1369	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	4	4	3
1370	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	4	3	4
1371	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	3	3	4	4
1372	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	4	3	3
1373	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	3	4	3
1374	CH ₃ -(CH ₂) ₁₃ -	CH ₃ -	CH ₃ -	4	3	3	4
1375	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	1	1	1
1376	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	1	1	1
1377	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	2	1	1
1378	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	1	2	1
1379	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	1	1	2
1380	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	1	1	1
1381	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	3	1	1
1382	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	1	3	1
1383	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	1	1	3
1384	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	1	1	1

1385	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	4	1	1
1386	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	1	4	1
1387	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	1	1	4
1388	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	2	2	1
1389	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	2	1	2
1390	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	1	2	2
1391	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	2	1	1
1392	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	1	2	1
1393	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	1	1	2
1394	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	3	3	1
1395	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	3	1	3
1396	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	1	3	3
1397	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	3	1	1
1398	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	1	3	1
1399	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	1	1	3
1400	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	4	4	1
1401	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	4	1	4
1402	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	1	4	4
1403	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	4	1	1
1404	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	1	4	1
1405	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	1	1	4
1406	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	1	2	3
1407	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	1	3	2
1408	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	2	3	1
1409	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	3	2	1
1410	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	2	1	3
1411	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	3	1	2
1412	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	1	1	3
1413	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	1	3	1
1414	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	3	1	1
1415	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	1	1	2
1416	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	1	2	1
1417	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	2	1	1
1418	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	1	2	4
1419	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	1	4	2
1420	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	2	4	1
1421	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	4	2	1

1422	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	2	1	4
1423	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	4	1	2
1424	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	1	1	4
1425	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	1	4	1
1426	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	4	1	1
1427	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	1	1	2
1428	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	1	2	1
1429	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	2	1	1
1430	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	1	4	3
1431	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	1	3	4
1432	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	4	3	1
1433	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	3	4	1
1434	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	4	1	3
1435	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	3	1	4
1436	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	1	1	3
1437	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	1	3	1
1438	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	3	1	1
1439	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	1	1	4
1440	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	1	4	1
1441	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	4	1	1
1442	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	2	2	2
1443	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	1	2	2
1444	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	2	1	2
1445	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	2	2	1
1446	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	3	3	3
1447	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	1	3	3
1448	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	3	1	3
1449	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	3	3	1
1450	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	4	4	4
1451	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	1	4	4
1452	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	4	1	4
1453	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	4	4	1
1454	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	2	1	3
1455	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	2	3	1
1456	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	1	2	3
1457	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	3	2	1
1458	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	1	3	2

1459	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	3	1	2
1460	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	2	2	3
1461	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	2	3	2
1462	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	3	2	2
1463	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	2	2	1
1464	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	2	1	2
1465	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	1	2	2
1466	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	2	1	4
1467	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	2	4	1
1468	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	1	2	4
1469	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	4	2	1
1470	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	1	4	2
1471	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	4	1	2
1472	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	2	2	4
1473	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	2	4	2
1474	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	4	2	2
1475	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	2	2	1
1476	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	2	1	2
1477	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	1	2	2
1478	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	2	4	3
1479	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	2	3	4
1480	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	4	2	3
1481	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	3	2	4
1482	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	4	3	2
1483	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	3	4	2
1484	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	2	2	3
1485	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	2	3	2
1486	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	3	2	2
1487	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	2	2	4
1488	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	2	4	2
1489	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	4	2	2
1490	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	3	1	2
1491	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	3	2	1
1492	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	1	3	2
1493	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	2	3	1
1494	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	1	2	3
1495	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	2	1	3

1496	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	3	3	2
1497	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	3	2	3
1498	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	2	3	3
1499	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	3	3	1
1500	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	3	1	3
1501	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	1	3	3
1502	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	3	1	4
1503	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	3	4	1
1504	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	1	3	4
1505	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	4	3	1
1506	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	1	4	3
1507	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	4	1	3
1508	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	3	3	4
1509	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	3	4	3
1510	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	4	3	3
1511	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	3	3	1
1512	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	3	1	3
1513	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	1	3	3
1514	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	3	4	2
1515	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	3	2	4
1516	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	4	3	2
1517	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	2	3	4
1518	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	4	2	3
1519	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	2	4	3
1520	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	3	3	2
1521	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	3	2	3
1522	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	2	3	3
1523	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	3	3	4
1524	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	3	4	3
1525	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	4	3	3
1526	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	4	1	2
1527	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	4	2	1
1528	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	1	4	2
1529	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	2	4	1
1530	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	1	2	4
1531	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	2	1	4
1532	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	4	4	2

1533	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	4	2	4
1534	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	2	4	4
1535	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	4	4	1
1536	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	4	1	4
1537	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	1	4	4
1538	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	4	1	3
1539	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	4	3	1
1540	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	1	4	3
1541	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	3	4	1
1542	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	1	3	4
1543	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	3	1	4
1544	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	4	4	3
1545	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	4	3	4
1546	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	3	4	4
1547	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	4	4	1
1548	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	4	1	4
1549	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	1	4	4
1550	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	4	3	2
1551	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	4	2	3
1552	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	3	4	2
1553	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	2	4	3
1554	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	3	2	4
1555	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	2	3	4
1556	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	4	4	2
1557	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	4	2	4
1558	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	2	4	4
1559	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	4	4	3
1560	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	4	3	4
1561	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	3	4	4
1562	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	2	3	4
1563	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	2	4	3
1564	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	3	2	4
1565	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	3	4	2
1566	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	4	2	3
1567	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	1	4	3	2
1568	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	1	3	4
1569	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	1	4	3

1570	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	3	1	4
1571	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	3	4	1
1572	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	4	1	3
1573	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	4	3	1
1574	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	1	2	4
1575	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	1	4	2
1576	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	2	1	4
1577	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	2	4	1
1578	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	4	1	2
1579	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	4	2	1
1580	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	1	2	3
1581	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	1	3	2
1582	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	2	1	3
1583	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	2	3	1
1584	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	3	1	2
1585	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	3	2	1
1586	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	3	3	2
1587	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	3	2	3
1588	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	2	3	3
1589	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	3	2	2
1590	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	2	3	2
1591	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	2	2	3
1592	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	4	4	2
1593	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	4	2	4
1594	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	2	2	4	4
1595	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	4	2	2
1596	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	2	4	2
1597	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	2	2	4
1598	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	4	4	3
1599	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	4	3	4
1600	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	3	3	4	4
1601	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	4	3	3
1602	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	3	4	3
1603	CH ₃ -(CH ₂) ₁₄ -	CH ₃ -	CH ₃ -	4	3	3	4

[0020] In addition to the nonionic surfactants with low dynamic surface tension present according to the invention in the compositions, the compositions according to the invention can comprise further surfactants from the groups of nonionic, anionic, cationic or amphoteric surfactants. The additional nonionic surfactants used are preferably alkoxyated, advantageously ethoxylated, in particular primary alcohols having preferably 8 to 18 carbon atoms and on average 1 to 12 mol of ethylene oxide (EO) per mole of alcohol, in which the alcohol radical may be linear or preferably methyl-branched in the 2 position, or may contain linear and methyl-branched radicals in the mixture, as are usually present in oxo alcohol radicals. In particular, however, preference is given to alcohol ethoxylates with linear radicals of alcohols of native origin having 12 to 18 carbon atoms, e.g. from coconut alcohol, palm alcohol, tallow fatty alcohol or oleyl alcohol, and on average 2 to 8 EO per mole of alcohol. Preferred ethoxylated alcohols include, for example, C₁₂₋₁₄-alcohols with 3 EO or 4 EO, C₉₋₁₁-alcohol with 7 EO, C₁₃₋₁₅-alcohols with 3 EO, 5 EO, 7 EO or 8 EO, C₁₂₋₁₈-alcohols with 3 EO, 5 EO or 7 EO and mixtures of these, such as mixtures of C₁₂₋₁₄-alcohol with 3 EO and C₁₂₋₁₈-alcohol with 5 EO. The stated degrees of ethoxylation represent statistical average values which, for a specific product, may be an integer or a fraction. Preferred alcohol ethoxylates have a narrowed homolog distribution (narrow range ethoxylates, NRE). In addition to these nonionic surfactants, it is also possible to use fatty alcohols with more than 12 EO. Examples thereof are tallow fatty alcohol with 14 EO, 25 EO, 30 EO or 40 EO.

[0021] In addition, further nonionic surfactants which may be used are also alkyl glycosides of the general formula RO(G)_x, in which R is a primary straight-chain or methyl-branched, in particular methyl-branched in the 2 position, aliphatic radical having 8 to 22 carbon atoms, preferably 12 to 18 carbon atoms, and G is the symbol

which stands for a glucose unit with 5 or 6 carbon atoms, preferably for glucose. The degree of oligomerization x , which gives the distribution of monoglycosides and oligoglycosides, is any desired number between 1 and 10; preferably x is 1.2 to 1.4.

[0022] A further class of preferably used nonionic surfactants, which are used either as the sole nonionic surfactant or in combination with other nonionic surfactants, are alkoxyated, preferably ethoxyated or ethoxyated and propoxyated fatty acid alkyl esters, preferably having 1 to 4 carbon atoms in the alkyl chain.

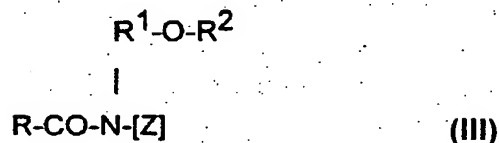
[0023] Nonionic surfactants of the amine oxide type, for example N-cocoalkyl-N,N-dimethylamine oxide and N-tallow-alkyl-N,N-dihydroxyethylamine oxide, and of the fatty acid alkanolamide type, may also be suitable. The amount of these nonionic surfactants is preferably not more than that of the ethoxyated fatty alcohols, in particular not more than half thereof.

[0024] Further suitable surfactants are polyhydroxy fatty acid amides of the formula (II)



in which RCO is an aliphatic acyl radical having 6 to 22 carbon atoms, R^1 is hydrogen, an alkyl or hydroxyalkyl radical having 1 to 4 carbon atoms and [Z] is a linear or branched polyhydroxyalkyl radical having 3 to 10 carbon atoms and 3 to 10 hydroxyl groups. The polyhydroxy fatty acid amides are known substances which are customarily obtained by reductive amination of a reducing sugar with ammonia, an alkylamine or an alkanolamine, and subsequent acylation with a fatty acid, a fatty acid alkyl ester or a fatty acid chloride.

[0025] The group of polyhydroxy fatty acid amides also includes compounds of the formula (III)



in which R is a linear or branched alkyl or alkenyl radical having 7 to 12 carbon atoms, R^1 is a linear, branched or cyclic alkyl radical or an aryl radical having 2 to 8 carbon atoms, and R^2 is a linear, branched or cyclic alkyl radical or an aryl radical or an oxy-alkyl radical having 1 to 8 carbon atoms, where C_{1-4} -alkyl or phenyl radicals are preferred and [Z] is a linear polyhydroxyalkyl radical whose alkyl chain is substituted by at least two hydroxyl groups, or alkoxylated, preferably ethoxylated or propoxylated, derivatives of said radical.

[0026] [Z] is preferably obtained by reductive amination of a reduced sugar, for example glucose, fructose, maltose, lactose, galactose, mannose or xylose. The N-alkoxy- or N-aryloxy-substituted compounds may then be converted into the desired polyhydroxy fatty acid amides by reaction with fatty acid methyl esters in the presence of an alkoxide as catalyst.

[0027] The preferred additional surfactants used are low-foam nonionic surfactants. The machine dishwashing detergents according to the invention particularly advantageously comprise a nonionic surfactant which has a melting point above room temperature. Consequently, preferred compositions are characterized in that they comprise nonionic surfactant(s) which has/have a melting point above 20°C , preferably above 25°C , particularly preferably between 25 and 60°C and in particular between 26.6 and 43.3°C .

[0028] In addition to the nonionic surfactants present according to the invention in the compositions, suitable nonionic surfactants which have melting points or softening points within the stated temperature range are, for example, low-foam nonionic surfactants which may be solid or highly viscous at room temperature. If nonionic surfactants which are highly viscous at room temperature are used, then it is preferred that they have a viscosity above 20 Pas, preferably above 35 Pas, and in particular above 40 Pas. Nonionic surfactants which have a wax-like consistency at room temperature are also preferred.

[0029] Preferred nonionic surfactants that are to be used in solid form at room temperature originate from the groups of alkoxyated nonionic surfactants, in particular ethoxyated primary alcohols and mixtures of these surfactants with surfactants of more complex structure, such as polyoxypropylene/polyoxyethylene/polyoxypropylene (PO/EO/PO) surfactants. Such (PO/EO/PO) nonionic surfactants are distinguished, moreover, by good foam control.

[0030] In a preferred embodiment of the present invention, the nonionic surfactant with a melting point above room temperature is an ethoxyated nonionic surfactant originating from the reaction of a monohydroxyalkanol or alkylphenol having 6 to 20 carbon atoms with preferably at least 12 mol, particularly preferably at least 15 mol, in particular at least 20 mol, of ethylene oxide per mole of alcohol or alkylphenol.

[0031] A particularly preferred nonionic surfactant to be used that is solid at room temperature is obtained from a straight-chain fatty alcohol having 16 to 20 carbon atoms (C₁₆₋₂₀-alcohol), preferably a C₁₈-alcohol and at least 12 mol, preferably at least 15 mol and in particular at least 20 mol, of ethylene oxide. Of these, the so-

called "narrow range ethoxylates" (see above) are particularly preferred.

[0032] Accordingly, particularly preferred products according to the invention comprise ethoxylated nonionic surfactant(s) which has/have been obtained from C₆₋₂₀-monohydroxyalkanols or C₆₋₂₀-alkylphenols or C₁₆₋₂₀-fatty alcohols and more than 12 mol, preferably more than 15 mol and in particular more than 20 mol, of ethylene oxide per mole of alcohol.

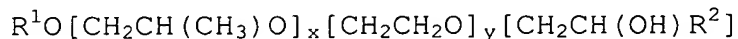
[0033] The nonionic surfactant preferably additionally has propylene oxide units in the molecule. Preferably, such PO units constitute up to 25% by weight, particularly preferably up to 20% by weight and in particular up to 15% by weight, of the total molar mass of the nonionic surfactant. Particularly preferred nonionic surfactants are ethoxylated monohydroxyalkanols or alkylphenols which additionally have polyoxyethylene-polyoxypropylene block copolymer units. The alcohol or alkylphenol part of such nonionic surfactant molecules constitutes preferably more than 30% by weight, particularly preferably more than 50% by weight and in particular more than 70% by weight, of the total molar mass of such nonionic surfactants. Preferred rinse aids are characterized in that they comprise ethoxylated and propoxylated nonionic surfactants in which the propylene oxide units in the molecule constitute up to 25% by weight, preferably up to 20% by weight and in particular up to 15% by weight, of the total molar mass of the nonionic surfactant.

[0034] Further nonionic surfactants with melting points above room temperature which can particularly preferably be used comprise . 40 to 70% of a polyoxypropylene/polyoxyethylene/polyoxypropylene block polymer blend which comprises 75% by weight of an inverted block copolymer of polyoxyethylene and polyoxypropylene

with 17 mol of ethylene oxide and 44 mol of propylene oxide and 25% by weight of a block copolymer of polyoxyethylene and polyoxypropylene, initiated with trimethylolpropane and comprising 24 mol of ethylene oxide and 99 mol of propylene oxide per mole of trimethylolpropane.

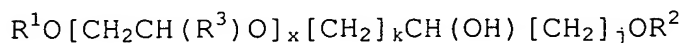
[0035] Nonionic surfactants which can particularly preferably be used can be obtained, for example, under the name Poly Tergent® SLF-18 from Olin Chemicals.

[0036] A further preferred rinse aid according to the invention comprises nonionic surfactants of the formula



in which R^1 is a linear or branched aliphatic hydrocarbon radical having 4 to 18 carbon atoms or mixtures thereof, R^2 is a linear or branched hydrocarbon radical having 2 to 26 carbon atoms or mixtures thereof, and x represents values between 0.5 and 1.5 and y represents a value of at least 15.

[0037] Further nonionic surfactants which can preferably be used are the terminally capped poly(oxyalkylated) nonionic surfactants of the formula

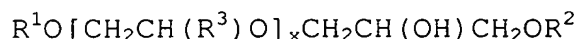


in which R^1 and R^2 are linear or branched, saturated or unsaturated, aliphatic or aromatic hydrocarbon radicals having 1 to 30 carbon atoms, R^3 is H or a methyl, ethyl, n-propyl, isopropyl, n-butyl, 2-butyl or 2-methyl-2-butyl radical, x represents values between 1 and 30, k and j represent values between 1 and 12, preferably between 1 and 5. If the value x is ≥ 2 , each R^3 in the above formula may be different. R^1 and R^2 are preferably linear or

branched, saturated or unsaturated, aliphatic or aromatic hydrocarbon radicals having 6 to 22 carbon atoms, radicals having 8 to 18 carbon atoms being particularly preferred. For the radical R^3 , H, $-CH_3$ or $-CH_2CH_3$ are particularly preferred. Particularly preferred values for x are in the range from 1 to 20, in particular from 6 to 15.

[0038] As described above, each R^3 in the above formula may be different if x is ≥ 2 . By this means it is possible to vary the alkylene oxide unit in the square brackets. If x, for example, is 3, the radical R^3 may be selected in order to form ethylene oxide ($R^3 = H$) or propylene oxide ($R^3 = CH_3$) units, which may be added onto one another in any sequence, examples being (EO)(PO)(EO), (EO)(EO)(PO), (EO)(EO)(EO), (PO)(EO)(PO), (PO)(PO)(EO) and (PO)(PO)(PO). The value 3 for x has been chosen here by way of example and it is entirely possible for it to be larger, the scope for variation increasing with increasing values of x and embracing, for example, a large number of (EO) groups, combined with a small number of (PO) groups, or vice versa.

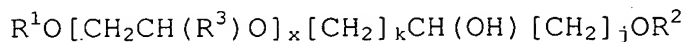
[0039] Particularly preferred terminally capped poly(oxyalkylated) alcohols of the above formula have values of k = 1 and j = 1, thereby simplifying the above formula to



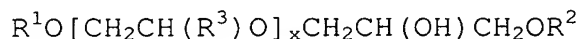
[0040] In the last-mentioned formula, R^1 , R^2 and R^3 are as defined above and x represents numbers from 1 to 30, preferably from 1 to 20 and in particular from 6 to 18. Particular preference is given to surfactants in which the radicals R^1 and R^2 have 9 to 14 carbon atoms, R^3 is H, and x assumes values from 6 to 15.

[0041] Summarizing the last-mentioned statements, preference is given to rinse aids according to the

invention which comprise terminally capped poly(oxyalkylated) nonionic surfactants of the formula



in which R^1 and R^2 are linear or branched, saturated or unsaturated, aliphatic or aromatic hydrocarbon radicals having 1 to 30 carbon atoms, R^3 is H or a methyl, ethyl, n-propyl, isopropyl, n-butyl, 2-butyl or 2-methyl-2-butyl radical, x represents values between 1 and 30, k and j are values between 1 and 12, preferably between 1 and 5, where surfactants of the type



in which x represents numbers from 1 to 30, preferably from 1 to 20 and in particular from 6 to 18, are particularly preferred.

[0042] It is also possible to use anionic, cationic and/or amphoteric surfactants in conjunction with said surfactants; due to their foaming behavior, the former are only of minor importance in machine dishwashing detergents and are in most cases used only in amounts below 10% by weight, in most cases even below 5% by weight, for example from 0.01 to 2.5% by weight, in each case based on the product. The products according to the invention may thus also comprise anionic, cationic and/or amphoteric surfactants as surfactant component.

[0043] The anionic surfactants used are, for example, those of the sulfonate and sulfate type. Suitable surfactants of the sulfonate type are, preferably, C_9 - C_{13} -alkylbenzenesulfonates, olefinsulfonates, i.e. mixtures of alkene- and hydroxyalkanesulfonates, and disulfonates, as are obtained, for example, from C_{12} - C_{18} -monoolefins having a terminal or internal double bond by sulfonation with gaseous sulfur trioxide and subsequent alkaline or acidic

hydrolysis of the sulfonation products. Also suitable are alkanesulfonates, which are obtained from C₁₂₋₁₈-alkanes, for example by sulfochlorination or sulfoxidation with subsequent hydrolysis or neutralization, respectively. Likewise suitable are also the esters of α -sulfo fatty acids (ester sulfonates), e.g. the α -sulfonated methyl esters of hydrogenated coconut, palm kernel or tallow fatty acids.

[0044] Further suitable anionic surfactants are sulfated fatty acid glycerol esters. Fatty acid glycerol esters are understood as meaning the monoesters, diesters and triesters, and mixtures thereof, as are obtained in the preparation by esterification of a monoglycerol with 1 to 3 mol of fatty acid or in the transesterification of triglycerides with 0.3 to 2 mol of glycerol. Preferred sulfated fatty acid glycerol esters here are the sulfonation products of saturated fatty acids having 6 to 22 carbon atoms, for example those of caproic acid, caprylic acid, capric acid, myristic acid, lauric acid, palmitic acid, stearic acid or behenic acid.

[0045] Preferred alk(en)yl sulfates are the alkali metal salts, and in particular the sodium salts, of the sulfuric monoesters of C₁₂-C₁₈-fatty alcohols, for example those of coconut fatty alcohol, tallow fatty alcohol, lauryl, myristyl, cetyl or stearyl alcohol or of C₁₀-C₂₀-oxo alcohols, and those monoesters of secondary alcohols of these chain lengths. Preference is also given to alk(en)yl sulfates of said chain length which contain a synthetic straight-chain alkyl radical prepared on a petrochemical basis, and which have a degradation behavior analogous to that of the corresponding compounds based on fatty-chemical raw materials. From a washing technology viewpoint, the C₁₂-C₁₆-alkyl sulfates and C₁₂-C₁₅-alkyl sulfates and also C₁₄-C₁₅-alkyl sulfates are preferred. In addition, 2,3-alkyl sulfates, which can be obtained as

commercial products from Shell Oil Company under the name DAN[®], are suitable anionic surfactants.

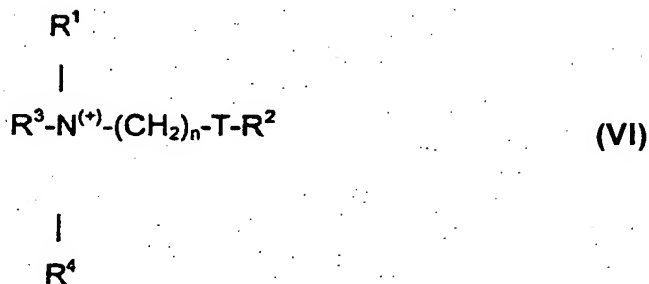
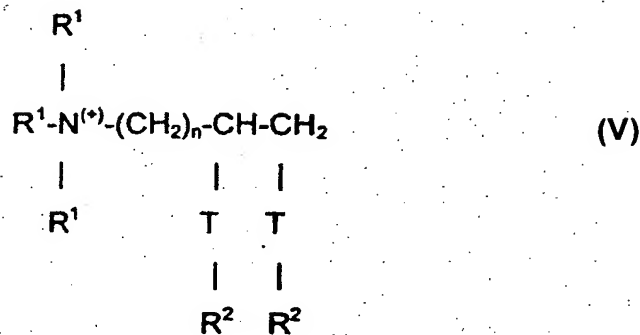
[0046] Also suitable are the sulfuric monoesters of the straight-chain or branched C₇₋₂₁-alcohols ethoxylated with 1 to 6 mol of ethylene oxide, such as 2-methyl-branched C₉₋₁₁-alcohols containing, on average, 3.5 mol of ethylene oxide (EO) or C₁₂₋₁₈-fatty alcohols having 1 to 4 EO. Due to their high foaming behavior, they are used in cleaning compositions only in relatively small amounts, for example in amounts of from 1 to 5% by weight.

[0047] Further suitable anionic surfactants are also the salts of the alkylsulfosuccinic acid, which are also referred to as sulfosuccinates or as sulfosuccinic esters and which represent monoesters and/or diesters of sulfosuccinic acid with alcohols, preferably fatty alcohols and in particular ethoxylated fatty alcohols. Preferred sulfosuccinates comprise C₈₋₁₈-fatty alcohol radicals or mixtures of these. Particularly preferred sulfosuccinates comprise a fatty alcohol radical derived from ethoxylated fatty alcohols, which themselves represent nonionic surfactants (for description see below). Here, particular preference is in turn given to sulfosuccinates whose fatty alcohol radicals are derived from ethoxylated fatty alcohols having a narrowed homolog distribution. It is likewise also possible to use alk(en)ylsuccinic acid with preferably 8 to 18 carbon atoms in the alk(en)yl chain or salts thereof.

[0048] Further suitable anionic surfactants are, in particular, soaps. Suitable soaps include saturated fatty acid soaps, such as the salts of lauric acid, myristic acid, palmitic acid, stearic acid, hydrogenated erucic acid and behenic acid, and in particular mixtures of soaps derived from natural fatty acids, e.g. coconut, palm kernel or tallow fatty acids.

[0049] The anionic surfactants, including the soaps, may be present in the form of their sodium, potassium or ammonium salts and also as soluble salts of organic bases, such as mono-, di- or triethanolamine. Preferably, the anionic surfactants are in the form of their sodium or potassium salts, in particular in the form of the sodium salts.

[0050] As cationic active substances, the products according to the invention may, for example, comprise cationic compounds of the formulae IV, V or VI,



in which each group R^1 , independently of one another, is chosen from C_{1-6} -alkyl, -alkenyl or -hydroxyalkyl groups;

each group R^2 , independently of one another, is chosen from C_{8-28} -alkyl or -alkenyl groups; $R^3 = R^1$ or $(CH_2)_n-T-R^2$; $R^4 = R^1$ or R^2 or $(CH_2)_n-T-R^2$; $T = -CH_2-$, $-O-CO-$ or $-CO-O-$ and n is an integer from 0 to 5.

[0051] As a further ingredient, the compositions according to the invention comprise one or more builder(s). Builders are used in the compositions according to the invention primarily to bind calcium and magnesium. Customary builders are the low molecular weight polycarboxylic acids and their salts, the homopolymeric and copolymeric polycarboxylic acids and their salts, the carbonates, phosphates and sodium and potassium silicates. For the cleaning compositions according to the invention, preference is given to using trisodium citrate and/or pentasodium tripolyphosphate and silicatic builders from the class of alkali metal disilicates. In general, with the alkali metal salts, the potassium salts are preferred over the sodium salts since they often have a greater solubility in water. Preferred water-soluble builders are, for example, tripotassium citrate, potassium carbonate and the potassium waterglasses.

[0052] Particularly preferred machine dishwashing detergents comprise, as builders, phosphates, preferably alkali metal phosphates, particularly preferably pentasodium or pentapotassium triphosphate (sodium or potassium tripolyphosphate).

[0053] Alkali metal phosphates is the collective term for the alkali metal (in particular sodium and potassium) salts of the various phosphoric acids, among which metaphosphoric acids $(HPO_3)_n$ and orthophosphoric acid H_3PO_4 , in addition to higher molecular weight representatives, may be differentiated. The phosphates combine a number of advantages: they act as alkali carriers, prevent limescale deposits and additionally contribute to the cleaning performance.

[0054] Sodium dihydrogenphosphate, NaH_2PO_4 , exists as the dihydrate (density 1.91 gcm^{-3} , melting point 60°) and as the monohydrate (density 2.04 gcm^{-3}). Both salts are white powders which are very readily soluble in water, which lose the water of crystallization upon heating and undergo conversion at 200°C into the weakly acidic diphosphate (disodium hydrogendiphosphate, $\text{Na}_2\text{H}_2\text{P}_2\text{O}_7$), at a higher temperature into sodium trimetaphosphate ($\text{Na}_3\text{P}_3\text{O}_9$) and Maddrell's salt (see below). NaH_2PO_4 is acidic; it is formed if phosphoric acid is adjusted to a pH of 4.5 using sodium hydroxide solution and the slurry is sprayed. Potassium dihydrogenphosphate (primary or monobasic potassium phosphate, potassium biphosphate, PDP), KH_2PO_4 , is a white salt of density 2.33 gcm^{-3} , has a melting point of 253° [decomposition with the formation of potassium polyphosphate $(\text{KPO}_3)_x$] and is readily soluble in water.

[0055] Disodium hydrogenphosphate (secondary sodium phosphate), Na_2HPO_4 , is a colorless, very readily water-soluble crystalline salt. It exists in anhydrous form and with 2 mol of water (density 2.066 gcm^{-3} , water loss at 95°), 7 mol of water (density 1.68 gcm^{-3} , melting point 48° with loss of 5 H_2O) and 12 mol of water (density 1.52 gcm^{-3} , melting point 35° with loss of 5 H_2O), becomes anhydrous at 100° and converts to the diphosphate $\text{Na}_4\text{P}_2\text{O}_7$ upon more severe heating. Disodium hydrogenphosphate is prepared by neutralizing phosphoric acid with soda solution using phenolphthalein as indicator. Dipotassium hydrogenphosphate (secondary or dibasic potassium phosphate), K_2HPO_4 , is an amorphous white salt which is readily soluble in water.

[0056] Trisodium phosphate, tertiary sodium phosphate, Na_3PO_4 , are colorless crystals which as the dodecahydrate have a density of 1.62 gcm^{-3} and a melting point of $73-76^\circ\text{C}$ (decomposition), as the decahydrate (corresponding to 19-20% of P_2O_5) have a melting point of

100°C and in anhydrous form (corresponding to 39-40% of P_2O_5) have a density of 2.536 gcm^{-3} . Trisodium phosphate is readily soluble in water with an alkaline reaction and is prepared by evaporative concentration of a solution of exactly 1 mol of disodium phosphate and 1 mol of NaOH. Tripotassium phosphate (tertiary or tribasic potassium phosphate), K_3PO_4 , is a white, deliquescent, granular powder of density 2.56 gcm^{-3} , has a melting point of 1340° and is readily soluble in water with an alkaline reaction. It is produced, for example, when Thomas slag is heated with charcoal and potassium sulfate. Despite the relatively high price, the more readily soluble and therefore highly effective potassium phosphates are often preferred in the cleaners industry over corresponding sodium compounds.

[0057] Tetrasodium diphosphate (sodium pyrophosphate), $Na_4P_2O_7$, exists in anhydrous form (density 2.534 gcm^{-3} , melting point 988° , 880° also reported) and as the decahydrate (density $1.815\text{--}1.836 \text{ gcm}^{-3}$, melting point 94° with loss of water). Both substances are colorless crystals which are soluble in water with an alkaline reaction. $Na_4P_2O_7$ is formed when disodium phosphate is heated at $>200^\circ$ or by reacting phosphoric acid with soda in the stoichiometric ratio and dewatering the solution by spraying. The decahydrate complexes heavy metal salts and water hardness constituents and therefore reduces the hardness of the water. Potassium diphosphate (potassium pyrophosphate), $K_4P_2O_7$, exists in the form of the trihydrate and is a colorless, hygroscopic powder with a density of 2.33 gcm^{-3} which is soluble in water, the pH of the 1% strength solution at 25° being 10.4.

[0058] Condensation of the NaH_2PO_4 or of the KH_2PO_4 gives rise to higher molecular weight sodium and potassium phosphates, among which it is possible to differentiate between cyclic representatives, the sodium and potassium metaphosphates, and catenated types, the sodium and

potassium polyphosphates. For the latter, in particular, a large number of names are in use: fused or high-temperature phosphates, Graham's salt, Kurrol's and Maddrell's salt. All higher sodium and potassium phosphates are referred to collectively as condensed phosphates.

[0059] The industrially important pentasodium triphosphate, $\text{Na}_5\text{P}_3\text{O}_{10}$ (sodium tripolyphosphate), is a nonhygroscopic, white, water-soluble salt which is anhydrous or crystallizes with 6 H_2O and has the general formula $\text{NaO}-[\text{P}(\text{O})(\text{ONa})-\text{O}]_n-\text{Na}$ where $n=3$. About 17 g of the salt free from water of crystallization dissolve in 100 g of water at room temperature, about 20 g dissolve at 60° , and about 32 g dissolve at 100° ; after heating the solution for 2 hours at 100° , about 8% orthophosphate and 15% diphosphate are produced by hydrolysis. In the case of the preparation of pentasodium triphosphate, phosphoric acid is reacted with soda solution or sodium hydroxide solution in the stoichiometric ratio and the solution is dewatered by spraying. Similarly to Graham's salt and sodium diphosphate, pentasodium triphosphate dissolves many insoluble metal compounds (including lime soaps, etc.). Pentapotassium triphosphate, $\text{K}_5\text{P}_3\text{O}_{10}$ (potassium tripolyphosphate), is commercially available, for example, in the form of a 50% strength by weight solution ($> 23\% \text{P}_2\text{O}_5$, $25\% \text{K}_2\text{O}$). The potassium polyphosphates are widely used in the detergents and cleaners industry.

[0060] Further important builders are, in particular, the carbonates, citrates and silicates. Preference is given to using trisodium citrate and/or pentasodium tripolyphosphate and/or sodium carbonate and/or sodium bicarbonate and/or gluconates and/or silicatic builders from the class of disilicates and/or metasilicates.

[0061] Further constituents which may be present are alkali carriers. Suitable alkali carriers are alkali metal

hydroxides, alkali metal carbonates, alkali metal hydrogencarbonates, alkali metal sesquicarbonates, alkali metal silicates, alkali metal metasilicates, and mixtures of the abovementioned substances, preference being given, for the purposes of this invention, to using alkali metal carbonates, in particular sodium carbonate, sodium hydrogencarbonate or sodium sesquicarbonate.

[0062] Particular preference is given to a builder system comprising a mixture of tripolyphosphate and sodium carbonate.

[0063] A builder system comprising a mixture of tripolyphosphate and sodium carbonate and sodium disilicate is likewise particularly preferred.

[0064] The compositions according to the invention can comprise the builder or builders in varying amounts depending on the intended use. Preference is given here to machine dishwashing detergents according to the invention which comprise the builder(s) in amounts of from 5 to 90% by weight, preferably from 7.5 to 85% by weight and in particular from 10 to 80% by weight, in each case based on the total composition.

[0065] As well as the builders, bleaches, bleach activators, enzymes, silver protectants, dyes and fragrances etc. in particular are preferred ingredients of machine dishwashing detergents. In addition, further ingredients may be present, preference being given to machine dishwashing detergents according to the invention which additionally comprise one or more substances from the group of acidifying agents, chelate complexing agents or of deposit-inhibiting polymers.

[0066] Possible acidifiers are either inorganic acids or organic acids provided these are compatible with the other ingredients. For reasons of consumer protection

and handling safety, the solid mono-, oligo- and polycarboxylic acids in particular can be used. From this group, preference is in turn given to citric acid, tartaric acid, succinic acid, malonic acid, adipic acid, maleic acid, fumaric acid, oxalic acid, and polyacrylic acid. The anhydrides of these acids can also be used as acidifiers, maleic anhydride and succinic anhydride in particular being commercially available. Organic sulfonic acids, such as amidosulfonic acid can likewise be used. A product which is commercially available and which can likewise preferably be used as acidifier for the purposes of the present invention is Sokalan® DCS (trade mark of BASF), a mixture of succinic acid (max. 31% by weight), glutaric acid (max. 50% by weight) and adipic acid (max. 33% by weight).

[0067] A further possible group of ingredients are the chelate complexing agents. Chelate complexing agents are substances which form cyclic compounds with metal ions, where a single ligand occupies more than one coordination site on a central atom, i.e. is at least "bidentate". In this case, stretched compounds are thus normally closed by complex formation via an ion to give rings. The number of bonded ligands depends on the coordination number of the central ion.

[0068] Chelate complexing agents which are customary and preferred for the purposes of the present invention are, for example, polyoxycarboxylic acids, polyamines, ethylenediaminetetraacetic acid (EDTA) and nitrilotriacetic acid (NTA). Complex-forming polymers, i.e. polymers which carry functional groups either in the main chain itself or laterally relative to this, which can act as ligands and react with suitable metal atoms usually to form chelate complexes, can also be used according to the invention. The polymer-bonded ligands of the resulting metal complexes can originate from just one macromolecule or else belong to different polymer chains. The latter

leads to crosslinking of the material, provided the complex-forming polymers have not already been crosslinked beforehand via covalent bonds.

[0069] Complexing groups (ligands) of customary complex-forming polymers are iminodiacetic acid, hydroxyquinoline, thiourea, guanidine, dithiocarbamate, hydroxamic acid, amidoxime, aminophosphoric acid, (cycl.) polyamino, mercapto, 1,3-dicarbonyl and crown ether radicals, some of which have very specific activities toward ions of different metals. Basis polymers of many complex-forming polymers, which are also commercially important, are polystyrene, polyacrylates, polyacrylonitriles, polyvinyl alcohols, polyvinylpyridines and polyethylenimines. Natural polymers, such as cellulose, starch or chitin are also complex-forming polymers. Moreover, these may be provided with further ligand functionalities as a result of polymer-analogous modifications.

[0070] For the purposes of the present invention, particular preference is given to machine dishwashing detergents which comprise one or more chelate complexing agents from the groups of

- (i) polycarboxylic acids in which the sum of the carboxyl and optionally hydroxyl groups is at least 5,
- (ii) nitrogen-containing mono- or polycarboxylic acids,
- (iii) geminal diphosphonic acids,
- (iv) aminophosphonic acids,
- (v) phosphonopolycarboxylic acids,
- (vi) cyclodextrins

in amounts above 0.1% by weight, preferably above 0.5% by weight, particularly preferably above 1% by weight and in particular above 2.5% by weight, in each case based on the weight of the dishwasher product.

[0071] For the purposes of the present invention, it is possible to use all complexing agents of the prior art. These may belong to different chemical groups. Preference is given to using the following, individually or in a mixture with one another:

- a) polycarboxylic acids in which the sum of the carboxyl and optionally hydroxyl groups is at least 5, such as gluconic acid,
- b) nitrogen-containing mono- or polycarboxylic acids, such as ethylenediaminetetraacetic acid (EDTA), N-hydroxyethylethylenediaminetriacetic acid, diethylenetriaminepentaacetic acid, hydroxyethyliminodiacetic acid, nitridodiacetic acid-3-propionic acid, isoserinediacetic acid, N,N-di(β -hydroxyethyl)glycine, N-(1,2-dicarboxy-2-hydroxyethyl)glycine, N-(1,2-dicarboxy-2-hydroxyethyl)-aspartic acid or nitrilotriacetic acid (NTA),
- c) geminal diphosphonic acids, such as 1-hydroxyethane-1,1-diphosphonic acid (HEDP), higher homologs thereof having up to 8 carbon atoms, and hydroxy or amino group-containing derivatives thereof and 1-aminoethane-1,1-diphosphonic acid, higher homologs thereof having up to 8 carbon atoms, and hydroxy or amino group-containing derivatives thereof,
- d) aminophosphonic acids, such as ethylenediaminetetra(methylenephosphonic acid), diethylenetriaminepenta(methylenephosphonic acid) or nitrilotri(methylenephosphonic acid),
- e) phosphonopolycarboxylic acids, such as 2-phosphonobutane-1,2,4-tricarboxylic acid, and
- f) cyclodextrins.

[0072] For the purposes of this patent application, polycarboxylic acids a) are understood as meaning carboxylic acids - including monocarboxylic acids - in which the sum of carboxyl and the hydroxyl groups present

in the molecule is at least 5. Complexing agents from the group of nitrogen-containing polycarboxylic acids, in particular EDTA, are preferred. At the alkaline pH values of the treatment solutions required according to the invention, these complexing agents are at least partially in the form of anions. It is unimportant whether they are introduced in the form of acids or in the form of salts. In the case of using salts, alkali metal, ammonium or alkylammonium salts, in particular sodium salts, are preferred.

[0073] Deposit-inhibiting polymers may likewise be present in the products according to the invention. These substances, which may have chemically different structures, originate, for example, from the groups of low molecular weight polyacrylates with molar masses between 1000 and 20 000 daltons, preference being given to polymers with molar masses below 15 000 daltons.

[0074] Deposit-inhibiting polymers may also have cobuilder properties. Organic cobuilders which may be used in the machine dishwashing detergents according to the invention are, in particular, polycarboxylates/polycarboxylic acids, polymeric polycarboxylates, aspartic acid, polyacetals, dextrans, further organic cobuilders (see below) and phosphonates. These classes of substance are described below.

[0075] Organic builder substances which can be used are, for example, the polycarboxylic acids usable in the form of their sodium salts, the term polycarboxylic acids meaning carboxylic acids which carry more than one acid function. Examples of these are citric acid, adipic acid, succinic acid, glutaric acid, malic acid, tartaric acid, maleic acid, fumaric acid, sugar acids, aminocarboxylic acids, nitrilotriacetic acid (NTA), provided such a use is not objectionable on ecological grounds, and mixtures thereof. Preferred salts are the salts of the

polycarboxylic acids such as citric acid, adipic acid, succinic acid, glutaric acid, tartaric acid, sugar acids and mixtures thereof.

[0076] The acids per se may also be used. In addition to their builder action, the acids typically also have the property of an acidifying component and thus also serve to establish a lower and milder pH of detergents or cleaners. In this connection, particular mention is made of citric acid, succinic acid, glutaric acid, adipic acid, gluconic acid and any mixtures thereof.

[0077] Also suitable as builders or deposit inhibitors are polymeric polycarboxylates; these are, for example, the alkali metal salts of polyacrylic acid or of polymethacrylic acid, for example those having a relative molecular mass of from 500 to 70 000 g/mol.

[0078] The molar masses given for polymeric polycarboxylates are, for the purposes of this specification, weight-average molar masses M_w of the respective acid form, determined fundamentally by means of gel permeation chromatography (GPC) using a UV detector. The measurement was made against an external polyacrylic acid standard which, owing to its structural similarity to the polymers under investigation, provides realistic molecular weight values. These figures differ considerably from the molecular weight values obtained using polystyrenesulfonic acids as the standard. The molar masses measured against polystyrenesulfonic acids are usually considerably higher than the molar masses given in this specification.

[0079] Suitable polymers are, in particular, polyacrylates which preferably have a molecular mass of from 500 to 20 000 g/mol. Owing to their superior solubility, preference in this group may be given in turn to the short-chain polyacrylates which have molar masses

of from 1000 to 10 000 g/mol and particularly preferably from 1000 to 4000 g/mol.

[0080] Particular preference is given to using both polyacrylates and also copolymers of unsaturated carboxylic acids, monomers containing sulfonic acid groups, and optionally further ionic or nonionogenic monomers in the compositions according to the invention. The copolymers containing sulfonic acid groups are described in detail below.

[0081] Also suitable are copolymeric polycarboxylates, in particular those of acrylic acid with methacrylic acid and of acrylic acid or methacrylic acid with maleic acid. Copolymers which have proven to be particularly suitable are those of acrylic acid with maleic acid which contain from 50 to 90% by weight of acrylic acid and 50 to 10% by weight of maleic acid. Their relative molecular mass, based on free acids, is generally 2000 to 70 000 g/mol, preferably 20 000 to 50 000 g/mol and in particular 30 000 to 40 000 g/mol.

[0082] The (co)polymeric polycarboxylates can either be used as powders or as aqueous solutions. The (co)polymeric polycarboxylate content of the agents is preferably 0.5 to 20% by weight, in particular 3 to 10% by weight.

[0083] Particular preference is also given to biodegradable polymers of more than two different monomer units, for example those which contain, as monomers, salts of acrylic acid or of maleic acid, and vinyl alcohol or vinyl alcohol derivatives, or those which contain, as monomers, salts of acrylic acid and of 2-alkylallyl-sulfonic acid, and sugar derivatives. Further preferred copolymers are those which preferably have, as monomers, acrolein and acrylic acid/acrylic acid salts or acrolein and vinyl acetate.

[0084] Further preferred builder substances which are likewise to be mentioned are polymeric aminodicarboxylic acids, salts thereof or precursor substances thereof. Particular preference is given to polyaspartic acids or salts and derivatives thereof, which also have a bleach-stabilizing effect as well as cobuilder properties.

[0085] Further suitable builder substances are polyacetals which can be obtained by reacting dialdehydes with polyolcarboxylic acids which have 5 to 7 carbon atoms and at least 3 hydroxyl groups. Preferred polyacetals are obtained from dialdehydes, such as glyoxal, glutaraldehyde, terephthalaldehyde, and mixtures thereof and from polyolcarboxylic acids, such as gluconic acid and/or glucoheptonic acid.

[0086] Further suitable organic builder substances are dextrans, for example oligomers or polymers of carbohydrates, which can be obtained by partial hydrolysis of starches. The hydrolysis can be carried out in accordance with customary processes, for example acid-catalyzed or enzyme-catalyzed processes. The hydrolysis products preferably have average molar masses in the range from 400 to 500 000 g/mol. Preference is given here to a polysaccharide with a dextrose equivalent (DE) in the range from 0.5 to 40, in particular from 2 to 30, where DE is a common measure of the reducing effect of a polysaccharide compared with dextrose, which has a DE of 100. It is also possible to use maltodextrans with a DE between 3 and 20 and dried glucose syrups with a DE between 20 and 37, and also so-called yellow dextrans and white dextrans with relatively high molar masses in the range from 2000 to 30 000 g/mol.

[0087] The oxidized derivatives of such dextrans are their reaction products with oxidizing agents which are

able to oxidize at least one alcohol function of the saccharide ring to the carboxylic acid function. A product oxidized on the C₆ of the saccharide ring may be particularly advantageous.

[0088] Oxydisuccinates and other derivatives of disuccinates, preferably ethylenediaminedisuccinate, are also further suitable cobuilders. Here, ethylenediamine N,N'-disuccinate (EDDS) is preferably used in the form of its sodium or magnesium salts. In this connection, preference is also given to glycerol disuccinates and glycerol trisuccinates. Suitable use amounts in zeolite-containing and/or silicate-containing formulations are 3 to 15% by weight.

[0089] Further organic cobuilders which can be used are, for example, acetylated hydroxycarboxylic acids or salts thereof, which may also be present in lactone form and which contain at least 4 carbon atoms and at least one hydroxyl group and at most two acid groups.

[0090] A further class of substances with cobuilder properties is the phosphonates. These are, in particular, hydroxyalkane- and aminoalkanephosphonates. Among the hydroxyalkanephosphonates, 1-hydroxyethane-1,1-diphosphonate (HEDP) is of particular importance as cobuilder. It is preferably used as the sodium salt, the disodium salt giving a neutral reaction and the tetrasodium salt giving an alkaline reaction (pH 9). Suitable aminoalkanephosphonates are preferably ethylenediaminetetramethylenephosphonate (EDTMP), diethylenetriaminepentamethylenephosphonate (DTPMP) and higher homologs thereof. They are preferably used in the form of the neutrally reacting sodium salts, e.g. as the hexasodium salt of EDTMP or as the hepta- and octasodium salt of DTPMP. Here, preference is given to using HEDP as builder from the class of phosphonates. In addition, the aminoalkanephosphonates have a marked heavy metal-binding

capacity. Accordingly, particularly if the agents also comprise bleaches, it may be preferable to use aminoalkanephosphonates, in particular DTPMP, or mixtures of said phosphonates.

[0091] In addition to the substances from the classes of substance given, the products according to the invention can comprise further customary ingredients of cleaning compositions, where bleaches, bleach activators, enzymes, silver protectants, dyes and fragrances in particular are of importance. These substances are described below.

[0092] Among the compounds which serve as bleaches and liberate H_2O_2 in water, sodium perborate tetrahydrate and sodium perborate monohydrate are of particular importance. Examples of further bleaches which may be used are sodium percarbonate, peroxyphosphates, citrate perhydrates and H_2O_2 -supplying peracidic salts or peracids, such as perbenzoates, peroxyphthalates, diperazelaic acid, phthaloiminoperacid or diperdodecanedioic acid. Cleaners according to the invention can also comprise bleaches from the group of organic bleaches. Typical organic bleaches are the diacyl peroxides, such as, for example, dibenzoyl peroxide. Further typical organic bleaches are the peroxy acids, particular examples being the alkylperoxy acids and the arylperoxy acids. Preferred representatives are (a) peroxybenzoic acid and its ring-substituted derivatives, such as alkylperoxybenzoic acids, but also peroxy- α -naphthoic acid and magnesium monoperphthalate, (b) the aliphatic or substituted aliphatic peroxy acids, such as peroxy lauric acid, peroxy stearic acid, ϵ -phthalimido-peroxycaproic acid [phthaloiminoperoxyhexanoic acid (PAP)], o-carboxybenzamidoperoxy caproic acid, N-nonylamidoperadipic acid and N-nonylamidopersuccinates, and (c) aliphatic and araliphatic peroxydicarboxylic acids, such as 1,12-diperoxy carboxylic acid, 1,9-diperoxyazelaic acid, diperoxysebacic acid, diperoxybrassylic acid, the

diperoxyphthalic acids, 2-decyldiperoxybutane-1,4-dioic acid, N,N-terephthaloyl-di(6-aminopercaproic acid) can be used.

[0093] Bleaches which may be used in the cleaners according to the invention for machine dishwashing may also be substances which liberate chlorine or bromine. Among the suitable materials which liberate chlorine or bromine, suitable examples include heterocyclic N-bromoamides and N-chloroamides, for example trichloroisocyanuric acid, tribromoisocyanuric acid, dibromoisocyanuric acid and/or dichloroisocyanuric acid (DICA) and/or salts thereof with cations such as potassium and sodium. Hydantoin compounds, such as 1,3-dichloro-5,5-dimethylhydantoin, are likewise suitable.

[0094] Preferred machine dishwashing detergents according to the invention additionally comprise bleaches in amounts of from 1 to 40% by weight, preferably from 2.5 to 30% by weight and in particular from 5 to 20% by weight, in each case based on the total composition.

[0095] Bleach activators, which assist the action of the bleaches, have already been mentioned above as a possible ingredient of the rinse aid particles. Known bleach activators are compounds which contain one or more N- or O-acyl groups, such as substances from the class of anhydrides, of esters, of imides and of acylated imidazoles or oximes. Examples are tetraacetylenethylenediamine TAED, tetraacetylmethylenediamine TAMD and tetraacetylhexylenediamine TAHF, but also pentaacetylglucose PAG, 1,5-diacetyl-2,2-dioxohexahydro-1,3,5-triazine DADHT and isatoic anhydride ISA.

[0096] Bleach activators which can be used are compounds which, under perhydrolysis conditions, produce aliphatic peroxocarboxylic acids having preferably 1 to 10 carbon atoms, in particular 2 to 4 carbon atoms, and/or

optionally substituted perbenzoic acid. Substances which carry O-acyl and/or N-acyl groups of said number of carbon atoms and/or optionally substituted benzoyl groups are suitable. Preference is given to polyacylated alkylenediamines, in particular tetraacetylenediamine (TAED), acylated triazine derivatives, in particular 1,5-diacetyl-2,4-dioxohexahydro-1,3,5-triazine (DADHT), acylated glycolurils, in particular tetraacetylglycoluril (TAGU), N-acylimides, in particular N-nonanoylsuccinimide (NOSI), acylated phenolsulfonates, in particular n-nonanoyl- or isononanoyloxybenzenesulfonate (n- or iso-NOBS), carboxylic acid anhydrides, in particular phthalic anhydride, acylated polyhydric alcohols, in particular triacetin, ethylene glycol diacetate, 2,5-diacetoxy-2,5-dihydrofuran, n-methylmorpholinium acetonitrile methylsulfate (MMA), and enol esters and acetylated sorbitol and mannitol or mixtures thereof (SORMAN), acylated sugar derivatives, in particular pentaacetylglucose (PAG), pentaacetylfructose, tetraacetylxylose and octaacetylactose, and acetylated, optionally N-alkylated, glucamine and gluconolactone, and/or N-acylated lactams, for example N-benzoyl-caprolactam. Hydrophilically substituted acylacetals and acyllactams are likewise preferably used. Combinations of conventional bleach activators can also be used.

[0097] In addition to the conventional bleach activators, or instead of them, so-called bleach catalysts may also be incorporated into the rinse aid particles. These substances are bleach-boosting transition metal salts or transition metal complexes, such as, for example, Mn-, Fe-, Co-, Ru- or Mo-salen complexes or -carbonyl complexes. Mn, Fe, Co, Ru, Mo, Ti, V and Cu complexes with N-containing tripod ligands, and Co-, Fe-, Cu- and Ru-ammine complexes can also be used as bleach catalysts.

[0098] Preference is given to using bleach activators from the group of polyacylated alkylenediamines, in

particular tetraacetythylenediamine (TAED), N-acylimides, in particular N-nonanoysuccinimide (NOSI), acylated phenolsulfonates, in particular n-nonanoyl- or isononanoyloxybenzenesulfonate (n- or iso-NOBS), n-methylmorpholinium acetonitrile methylsulfate (MMA), preferably in amounts up to 10% by weight, in particular 0.1% by weight to 8% by weight, particularly 2 to 8% by weight and particularly preferably 2 to 6% by weight, based on the total agent.

[0099] Bleach-boosting transition metal complexes, in particular with the central atoms Mn, Fe, Co, Cu, Mo, V, Ti and/or Ru, preferably chosen from the group of manganese and/or cobalt salts and/or complexes, particularly preferably the cobalt (ammine) complexes, cobalt (acetato) complexes, cobalt (carbonyl) complexes, the chlorides of cobalt or manganese, manganese sulfate are used in customary amounts, preferably in an amount up to 5% by weight, in particular from 0.0025% by weight to 1% by weight and particularly preferably from 0.01% by weight to 0.25% by weight, in each case based on the total agent. However, in special cases, more bleach activator can also be used.

[0100] Suitable enzymes in the cleaners according to the invention are, in particular, those from the classes of hydrolases, such as the proteases, esterases, lipases or lipolytic enzymes, amylases, glycosyl hydrolases and mixtures of said enzymes. All of these hydrolases contribute to the removal of soilings such as protein-, grease- or starch-containing stains. For bleaching, it is also possible to use oxidoreductases. Especially suitable enzymatic active ingredients are those obtained from bacterial strains or fungi, such as *Bacillus subtilis*, *Bacillus licheniformis*, *Streptomyces griseus*, *Coprinus cinereus* and *Humicola insolens*, and from genetically modified variants thereof. Preference is given to using proteases of the subtilisin type and in particular to

proteases obtained from *Bacillus lentus*. Of particular interest here are enzyme mixtures, for example of protease and amylase or protease and lipase or lipolytic enzymes, or of protease, amylase and lipase or lipolytic enzymes, or protease, lipase or lipolytic enzymes, but in particular protease and/or lipase-containing mixtures or mixtures with lipolytic enzymes. Examples of such lipolytic enzymes are the known cutinases. Peroxidases or oxidases have also proven suitable in some cases. Suitable amylases include, in particular, alpha-amylases, isoamylases, pullulanases and pectinases.

[0101] The enzymes can be adsorbed on carrier substances or embedded in coating substances in order to protect them from premature decomposition. The proportion of enzymes, enzyme mixtures or enzyme granules can, for example, be about 0.1 to 5% by weight, preferably 0.5 to about 4.5% by weight.

[0102] For the purposes of the present invention, particular preference is given to the use of liquid enzyme formulations. Preference is given here to machine dishwashing detergents according to the invention which additionally comprise enzymes in amounts of from 0.01 to 15% by weight, preferably from 0.1 to 10 and in particular from 0.5 to 6% by weight, in each case based on the total product.

[0103] Dyes and fragrances can be added to the machine dishwashing detergents according to the invention in order to improve the esthetic impression of the resulting products and to provide the consumer with performance coupled with a visually and sensorily "typical and unmistakable" product. Perfume oils or fragrances which may be used are individual odorant compounds, e.g. the synthetic products of the ester, ether, aldehyde, ketone, alcohol and hydrocarbon type. Odorant compounds of the ester type are, for example, benzyl acetate,

phenoxyethyl isobutyrate, p-tert-butylcyclohexyl acetate, linalyl acetate, dimethylbenzylcarbinyl acetate, phenylethyl acetate, linalyl benzoate, benzyl formate, ethyl methylphenylglycinate, allyl cyclohexylpropionate, styrallyl propionate and benzyl salicylate. The ethers include, for example, benzyl ethyl ether, and the aldehydes include, for example, the linear alkanals having 8-18 carbon atoms, citral, citronellal, citronellyloxyacetaldehyde, cyclamenaldehyde, hydroxycitronellal, lilial and bourgeonal, and the ketones include, for example, the ionones, α -isomethylionone and methyl cedryl ketone, and the alcohols include anethol, citronellol, eugenol, geraniol, linalool, phenylethyl alcohol and terpineol, and the hydrocarbons include primarily the terpenes, such as limonene and pinene. Preference is, however, given to using mixtures of different odorants which together produce a pleasing scent note. Such perfume oils can also contain natural odorant mixtures, as are obtainable from plant sources, e.g. pine oil, citrus oil, jasmine oil, patchouli oil, rose oil and ylang ylang oil. Likewise suitable are muscatel, sage oil, camomile oil, oil of cloves, melissa oil, mint oil, cinnamon leaf oil, lime blossom oil, juniperberry oil, vetiver oil, olibanum oil, galbanum oil and labdanum oil, and orange blossom oil, neroliol, orange peel oil and sandalwood oil.

[0104] The fragrances can be incorporated directly into the cleaning compositions according to the invention, although it may also be advantageous to apply the fragrances to carriers which enhance the adhesion of the perfume to the laundry and, by virtue of slower fragrance release, ensure long-lasting fragrance of the textiles. Materials which have become established as such carrier materials are, for example, cyclodextrins, in which the cyclodextrin perfume complexes can additionally be coated with further auxiliaries.

[0105] In order to improve the esthetic impression of the compositions prepared according to the invention, it (or parts thereof) may be colored with suitable dyes. Preferred dyes, the choice of which does not present any problems at all to the person skilled in the art, have high storage stability and high insensitivity toward the other ingredients of the composition and toward light, and do not have marked substantivity toward the substrates to be treated with the compositions, such as glass, ceramic or plastic dishware, in order not to dye these.

[0106] The cleaning compositions according to the invention can comprise corrosion inhibitors to protect the ware or the machine, particular importance in the field of machine dishwashing being attached to silver protectants. It is possible to use the known substances of the prior art. In general, it is possible to use, in particular, silver protectants chosen from the group of triazoles, benzotriazoles, bisbenzotriazoles, aminotriazoles, alkylaminotriazoles and transition metal salts or transition metal complexes. Particular preference is given to the use of benzotriazole and/or alkylaminotriazole. Frequently encountered in cleaning formulations, moreover, are agents containing active chlorine, which can significantly reduce corrosion of the silver surface. In chlorine-free cleaners, use is made in particular of oxygen- and nitrogen-containing organic redox-active compounds, such as dihydric and trihydric phenols, e.g. hydroquinone, pyrocatechol, hydroxyhydroquinone, gallic acid, phloroglucinol, pyrogallol, and derivatives of these classes of compounds. Inorganic compounds in the form of salts and complexes, such as salts of the metals Mn, Ti, Zr, Hf, V, Co and Ce, are also often used. Preference is given here to the transition metal salts chosen from the group of manganese and/or cobalt salts and/or complexes, particularly preferably the cobalt(amine) complexes, the cobalt(acetato) complexes, the cobalt(carbonyl) complexes, the chlorides of cobalt or manganese and manganese

sulfate. It is likewise possible to use zinc compounds to prevent corrosion on the ware.

[0107] The requirements placed on dishes washed by machine are often nowadays higher than those placed on dishes washed manually. For example, even dishes which have been completely cleaned of food residues will not be evaluated as being perfect if, after machine dishwashing, they still have whitish marks based on water hardness or other mineral salts which, due to a lack of wetting agent, originate from dried-on water drops. In order to obtain sparkling and stain-free dishes, a rinse aid is therefore used. The addition of a rinse aid at the end of the wash program ensures that water runs off as completely as possible from the ware so that, at the end of the wash program, the various surfaces are residue-free and mark-free and sparkling. Machine dishwashing in domestic dishwashing machines usually includes a prerinse cycle, a main wash cycle and a clear-rinse cycle, which are interrupted by intermediate rinsing cycles. In most machines, the prerinse cycle can be included for heavily soiled dishes, but is only chosen by the consumer in exceptional cases, meaning that in most machines a main wash cycle, an intermediate rinse cycle with clean water and a clear-rinse cycle are carried out. The temperature of the main cycle varies between 40 and 65°C depending on the type of machine and the program chosen. In the clear-rinse cycle, rinse aids, which usually comprise nonionic surfactants as the main constituent, are added from a dosing compartment within the machine. Such rinse aids are in liquid form and are widely described in the prior art. Their task is primarily to prevent lime marks and films on the dishes.

[0108] The compositions according to the invention can be formulated as "normal" cleaners which are used together with standard commercial supplementary agents (rinse aids, regeneration salts). However, it is

particularly advantageous with the products according to the invention to dispense with the additional dosing of rinse aids since the surfactants with low dynamic surface tension present according to the invention in the compositions lead to excellent run-off properties of the wash liquor and significantly reduced films on the dishes compared to conventional surfactants. These so-called "2in1" products lead to easier handling and take away the burden for the consumer of additionally dosing two different products (detergent and rinse aid).

[0109] Even in the case of "2in1" products, two dosing operations are periodically required to operate a domestic dishwashing machine since the regeneration salt must be topped up in the water softening system of the machine after a certain number of wash operations. These water softening systems consist of ion exchanger polymers which soften the hard water flowing into the machine and, after the wash program, are regenerated by rinsing with salt water.

[0110] It is, however, also possible to provide products according to the invention which, in the form of so-called "3in1" products, combine the conventional detergents, rinse aid and salt replacement function. In this respect, preference is given to machine dishwashing detergents according to the invention which additionally comprise 0.1 to 70% by weight of copolymers of

- i) unsaturated carboxylic acids
- ii) monomers containing sulfonic acid groups
- iii) optionally further ionic or nonionogenic monomers.

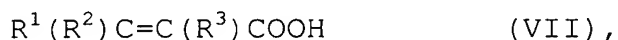
[0111] These copolymers result in parts of dishes treated with such compositions becoming significantly cleaner in subsequent cleaning operations than parts of dishes which have been washed with conventional compositions.

[0112] An additional positive effect is the shortening of the drying time of the parts of dishes treated with the cleaning composition, i.e. the consumer can take the dishes from the machine earlier and reuse them after the wash program is finished.

[0113] The invention is characterized by an improved "cleanability" of the treated substrate during later washing operations and by a considerable shortening of the drying time compared with comparable compositions without the use of polymers containing sulfonic acid groups.

[0114] For the purposes of the teaching according to the invention, *drying time* is generally understood as having the literal meaning, i.e. the time which elapses until a surface of the dishes treated in a dishwasher machine has dried, but in particular the time which elapses until 90% of a surface treated with a cleaning composition or rinse aid in concentrated or dilute form has dried.

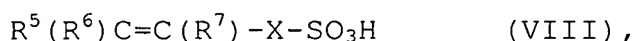
[0115] For the purposes of the present invention, unsaturated carboxylic acids of the formula VII are preferred as monomer,



in which R^1 to R^3 , independently of one another, are $-H-CH_3$, a straight-chain or branched saturated alkyl radical having 2 to 12 carbon atoms, a straight-chain or branched, mono- or polyunsaturated alkenyl radical having 2 to 12 carbon atoms, alkyl or alkenyl radicals as defined above and substituted by $-NH_2$, $-OH$ or $-COOH$, or $-COOH$ or $-COOR^4$, where R^4 is a saturated or unsaturated, straight-chain or branched hydrocarbon radical having 1 to 12 carbon atoms.

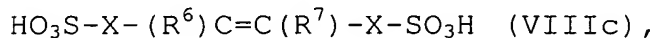
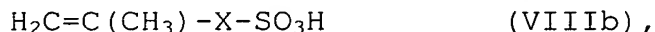
[0116] Among the unsaturated carboxylic acids which can be described by the formula I, particular preference is given to acrylic acid ($R^1 = R^2 = R^3 = H$), methacrylic acid ($R^1 = R^2 = H$; $R^3 = CH_3$) and/or maleic acid ($R^1 = COOH$; $R^2 = R^3 = H$).

[0117] In the case of the monomers containing sulfonic acid groups, preference is given to those of the formula VIII,



in which R^5 to R^7 , independently of one another, are $-H-CH_3$, a straight-chain or branched saturated alkyl radical having 2 to 12 carbon atoms, a straight-chain or branched, mono- or polyunsaturated alkenyl radical having 2 to 12 carbon atoms, alkyl or alkenyl radicals as defined above and substituted by $-NH_2$, $-OH$ or $-COOH$, or $-COOH$ or $-COOR^4$, where R^4 is a saturated or unsaturated, straight-chain or branched hydrocarbon radical having 1 to 12 carbon atoms, and X is an optionally present spacer group which is chosen from $-(CH_2)_n-$, where $n = 0$ to 4, $-COO-(CH_2)_k-$ where $k = 1$ to 6, $-C(O)-NH-C(CH_3)_2-$ and $-C(O)-NH-CH(CH_2CH_3)-$.

[0118] Among these monomers, preference is given to those of the formulae VIIIA, VIIIB and/or VIIIC,



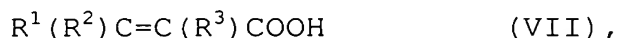
in which R^6 and R^7 , independently of one another, are chosen from $-H$, $-CH_3$, $-CH_2CH_3$, $-CH_2CH_2CH_3$, $-CH(CH_3)_2$ and X is an optionally present spacer group which is chosen from $-(CH_2)_n-$, where $n = 0$ to 4, $-COO-(CH_2)_k-$ where $k = 1$ to 6, $-C(O)-NH-C(CH_3)_2-$ and $-C(O)-NH-CH(CH_2CH_3)-$.

[0119] Particularly preferred monomers containing sulfonic acid groups here are 1-acrylamido-1-propanesulfonic acid ($X = -C(O)NH-CH(CH_2CH_3)$ in formula I Ia), 2-acrylamido-2-propanesulfonic acid ($X = -C(O)NH-C(CH_3)_2$ in formula VIIIa), 2-acrylamido-2-methyl-1-propanesulfonic acid ($X = -C(O)NH-CH(CH_3)CH_2-$ in formula VII Ia), 2-methacrylamido-2-methyl-1-propanesulfonic acid ($X = -C(O)NH-CH(CH_3)CH_2-$ in formula VII Ib), 3-methacrylamido-2-hydroxypropanesulfonic acid ($X = -C(O)NH-CH_2CH(OH)CH_2-$ in formula VII Ib), allylsulfonic acid ($X = CH_2$ in formula VIIIa), methallylsulfonic acid ($X = CH_2$ in formula VII Ib), allyloxybenzenesulfonic acid ($X = -CH_2-O-C_6H_4-$ in formula VIIIa), methallyloxybenzenesulfonic acid ($X = -CH_2-O-C_6H_4-$ in formula VII Ib), 2-hydroxy-3-(2-propenyloxy)propanesulfonic acid, 2-methyl-2-propene-1-sulfonic acid ($X = CH_2$ in formula VII Ib), styrenesulfonic acid ($X = C_6H_4$ in formula VIIIa), vinylsulfonic acid (X not present in formula VIIIa), 3-sulfopropyl acrylate ($X = -C(O)NH-CH_2CH_2CH_2-$ in formula VIIIa), 3-sulfopropyl methacrylate ($X = -C(O)NH-CH_2CH_2CH_2-$ in formula VII Ib), sulfomethacrylamide ($X = -C(O)NH-$ in formula VII Ib), sulfomethyl methacrylamide ($X = -C(O)NH-CH_2-$ in formula VII Ib) and water-soluble salts of said acids.

[0120] Suitable further ionic or nonionogenic monomers are, in particular, ethylenically unsaturated compounds. Preferably the content of the monomers of group iii) in the polymers used according to the invention is less than 20% by weight, based on the polymer. Polymers to be used with particular preference consist merely of monomers of groups i) and ii).

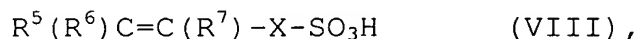
[0121] In summary, copolymers of

i) unsaturated carboxylic acids of the formula VII



in which R^1 to R^3 , independently of one another, are -H, -CH₃, a straight-chain or branched saturated alkyl radical having 2 to 12 carbon atoms, a straight-chain or branched, mono- or polyunsaturated alkenyl radical having 2 to 12 carbon atoms, alkyl or alkenyl radicals as defined above and substituted by -NH₂, -OH or -COOH, or -COOH or -COOR⁴, where R^4 is a saturated or unsaturated, straight-chain or branched hydrocarbon radical having 1 to 12 carbon atoms,

ii) monomers of the formula VIII containing sulfonic acid groups



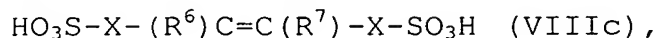
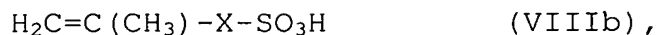
in which R^5 to R^7 , independently of one another, are -H, -CH₃, a straight-chain or branched saturated alkyl radical having 2 to 12 carbon atoms, a straight-chain or branched, mono- or polyunsaturated alkenyl radical having 2 to 12 carbon atoms, alkyl or alkenyl radicals as defined above and substituted by -NH₂, -OH or -COOH, or -COOH or -COOR⁴, where R^4 is a saturated or unsaturated, straight-chain or branched hydrocarbon radical having 1 to 12 carbon atoms, and X is an optionally present spacer group which is chosen from -(CH₂)_n-, where n = 0 to 4, -COO-(CH₂)_k- where k = 1 to 6, -C(O)-NH-C(CH₃)₂- and -C(O)-NH-CH(CH₂CH₃)-

iii) optionally further ionic or nonionogenic monomers

are particularly preferred.

[0122] Particularly preferred copolymers consist of

- i) one or more unsaturated carboxylic acids from the group consisting of acrylic acid, methacrylic acid and/or maleic acid
- ii) one or more monomers containing sulfonic acid groups and of the formulae VIIIIa, VIIIIb and/or VIIIIc:

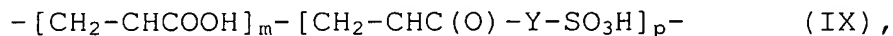


in which R^6 and R^7 , independently of one another, are chosen from $-\text{H}$, $-\text{CH}_3$, $-\text{CH}_2\text{CH}_3$, $-\text{CH}_2\text{CH}_2\text{CH}_3$, $-\text{CH}(\text{CH}_3)_2$ and X is an optionally present spacer group which is chosen from $-(\text{CH}_2)_n-$, where $n = 0$ to 4 , $-\text{COO}-(\text{CH}_2)_k-$ where $k = 1$ to 6 , $-\text{C}(\text{O})-\text{NH}-\text{C}(\text{CH}_3)_2-$ and $-\text{C}(\text{O})-\text{NH}-\text{CH}(\text{CH}_2\text{CH}_3)-$

iii) optionally further ionic or nonionogenic monomers.

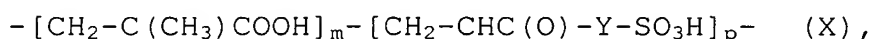
[0123] The copolymers present according to the invention in the products can comprise the monomers from groups i) and ii), and optionally iii) in varying amounts, where all of the representatives from group i) can be combined with all of the representatives from group ii) and all of the representatives from group iii). Particularly preferred polymers have certain structural units which are described below.

[0124] Thus, for example, preference is given to products according to the invention which are characterized in that they comprise one or more copolymers which contain structural units of the formula IX



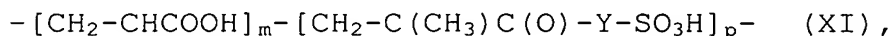
in which m and p are in each case a whole natural number between 1 and 2000, and Y is a spacer group chosen from substituted or unsubstituted aliphatic, aromatic or araliphatic hydrocarbon radicals having 1 to 24 carbon atoms, where spacer groups in which Y is $-\text{O}-(\text{CH}_2)_n-$ where $n = 0$ to 4 , is $-\text{O}-(\text{C}_6\text{H}_4)-$, is $-\text{NH}-\text{C}(\text{CH}_3)_2-$ or $-\text{NH}-\text{CH}(\text{CH}_2\text{CH}_3)-$ are preferred.

[0125] These polymers are prepared by copolymerization of acrylic acid with an acrylic acid derivative containing sulfonic acid groups. Copolymerizing the acrylic acid derivative containing sulfonic acid groups with methacrylic acid leads to another polymer which is likewise used with preference in the products according to the invention and is characterized in that the products comprise one or more copolymers which contain structural units of the formula X



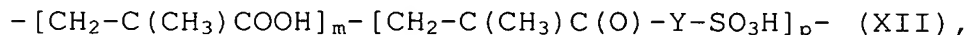
in which m and p are in each case a whole natural number between 1 and 2000, and Y is a spacer group which is chosen from substituted or unsubstituted aliphatic, aromatic or araliphatic hydrocarbon radicals having 1 to 24 carbon atoms, where spacer groups in which Y is $-\text{O}-(\text{CH}_2)_n-$, where $n = 0$ to 4, is $-\text{O}-(\text{C}_6\text{H}_4)-$, is $-\text{NH}-\text{C}(\text{CH}_3)_2-$ or $-\text{NH}-\text{CH}(\text{CH}_2\text{CH}_3)-$ are preferred.

[0126] Entirely analogously, acrylic acid and/or methacrylic acid can also be copolymerized with methacrylic acid derivatives containing sulfonic acid groups, as a result of which the structural units in the molecule are changed. For example, products according to the invention which comprise one or more copolymers which contain structural units of the formula XI



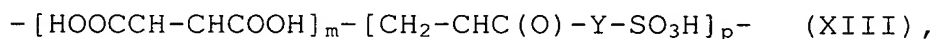
in which m and p are in each case a whole natural number between 1 and 2000, and Y is a spacer group which is chosen from substituted or unsubstituted aliphatic, aromatic or araliphatic hydrocarbon radicals having 1 to 24 carbon atoms, where spacer groups in which Y is $-\text{O}-(\text{CH}_2)_n-$, where $n = 0$ to 4, is $-\text{O}-(\text{C}_6\text{H}_4)-$, is $-\text{NH}-\text{C}(\text{CH}_3)_2-$ or $-\text{NH}-\text{CH}(\text{CH}_2\text{CH}_3)-$ are preferred, are likewise a preferred embodiment of the present invention, just as preference is

also given to products which are characterized in that they comprise one or more copolymers which contain structural units of the formula XII

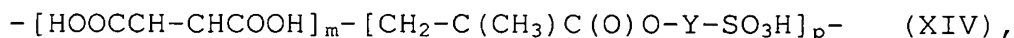


in which m and p are in each case a whole natural number between 1 and 2000, and Y is a spacer group which is chosen from substituted or unsubstituted aliphatic, aromatic or araliphatic hydrocarbon radicals having 1 to 24 carbon atoms, where spacer groups in which Y is $-\text{O}-(\text{CH}_2)_n-$, where $n = 0$ to 4, is $-\text{O}-(\text{C}_6\text{H}_4)-$, is $-\text{NH}-\text{C}(\text{CH}_3)_2-$ or $-\text{NH}-\text{CH}(\text{CH}_2\text{CH}_3)-$ are preferred.

[0127] In place of acrylic acid and/or methacrylic acid, or in addition thereto, it is also possible to use maleic acid as particularly preferred monomer from group i). This gives products preferred according to the invention which are characterized in that they comprise one or more copolymers which contain structural units of the formula XIII



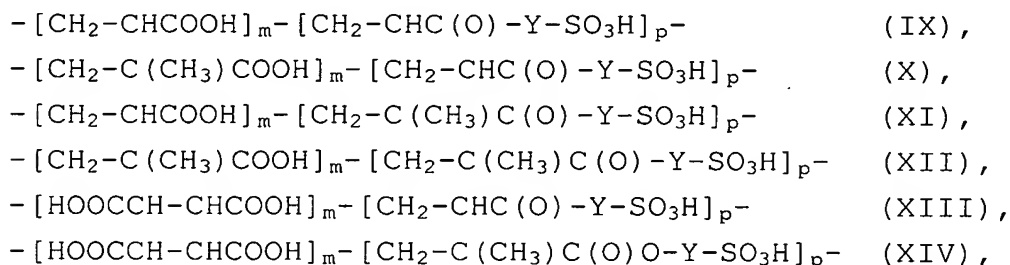
in which m and p are in each case a whole natural number between 1 and 2000, and Y is a spacer group which is chosen from substituted or unsubstituted aliphatic, aromatic or araliphatic hydrocarbon radicals having 1 to 24 carbon atoms, where spacer groups in which Y is $-\text{O}-(\text{CH}_2)_n-$, where $n = 0$ to 4, is $-\text{O}-(\text{C}_6\text{H}_4)-$, is $-\text{NH}-\text{C}(\text{CH}_3)_2-$ or $-\text{NH}-\text{CH}(\text{CH}_2\text{CH}_3)-$ are preferred, and gives products which are characterized in that they comprise one or more copolymers which contain structural units of the formula XIV



in which m and p are in each case a whole natural number between 1 and 2000, and Y is a spacer group which is

chosen from substituted or unsubstituted aliphatic, aromatic or araliphatic hydrocarbon radicals having 1 to 24 carbon atoms, where spacer groups in which Y is $-O-(CH_2)_n-$, where $n = 0$ to 4, is $-O-(C_6H_4)-$, is $-NH-C(CH_3)_2-$ or $-NH-CH(CH_2CH_3)-$ are preferred.

[0128] In summary, machine dishwashing detergents according to the invention are preferred which comprise, as ingredient b), one or more copolymers which contain structural units of the formulae IX and/or X and/or XI and/or XII and/or XIII and/or XIV



in which m and p are in each case a whole natural number between 1 and 2000, and Y is a spacer group which is chosen from substituted or unsubstituted aliphatic, aromatic or araliphatic hydrocarbon radicals having 1 to 24 carbon atoms, where spacer groups in which Y is $-O-(CH_2)_n-$ where $n = 0$ to 4, is $-O-(C_6H_4)-$, is $-NH-C(CH_3)_2-$ or $-NH-CH(CH_2CH_3)-$ are preferred.

[0129] In the polymers, all or some of the sulfonic acid groups can be present in neutralized form, i.e. the acidic hydrogen atom of the sulfonic acid group in some or all sulfonic acid groups can be replaced with metal ions, preferably alkali metal ions and in particular with sodium ions. Corresponding products which are characterized in that the sulfonic acid groups in the copolymer are in partially or completely neutralized form are preferred in accordance with the invention.

[0130] The monomer distribution of the copolymers used in the products according to the invention is, in the case of copolymers which comprise only monomers from groups i) and ii), preferably in each case 5 to 95% by weight of i) or ii), particularly preferably 50 to 90% by weight of monomer from group i) and 10 to 50% by weight of monomer from group ii), in each case based on the polymer.

[0131] In the case of terpolymers, particular preference is given to those which comprise 20 to 85% by weight of monomer from group i), 10 to 60% by weight of monomer from group ii), and 5 to 30% by weight of monomer from group iii).

[0132] The molar mass of the polymers used in the products according to the invention can be varied in order to match the properties of the polymers to the desired intended use. Preferred machine dishwashing detergents are characterized in that the copolymers have molar masses of from 2000 to 200 000 gmol^{-1} , preferably from 4000 to 25 000 gmol^{-1} and in particular from 5000 to 15 000 gmol^{-1} .

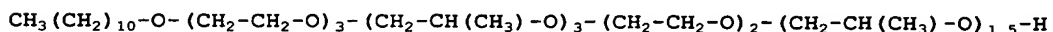
[0134] The content of one or more copolymers in the products according to the invention can vary depending on the intended use and desired product performance, preferred machine dishwashing detergents according to the invention being characterized in that the copolymer or copolymers is/are present in amounts of from 0.25 to 50% by weight, preferably from 0.5 to 35% by weight, particularly preferably from 0.75 to 20% by weight and in particular from 1 to 15% by weight.

[0135] As already mentioned above, particular preference is given to using both polyacrylates and also the above-described copolymers of unsaturated carboxylic acids, monomers containing sulfonic acid groups, and optionally further ionic or nonionogenic monomers in the compositions according to the invention. The polyacrylates

have been described above in detail. Particular preference is given to combinations of the above-described copolymers containing sulfonic acid groups with polyacrylates of low molar mass, for example in the range between 1000 and 4000 daltons. Such polyacrylates are available commercially under the trade name Sokalan® PA15 and Sokalan® PA25 (BASF).

EXAMPLES

[0136] A mixture of the surfactants 575 and 673 from the table in the description text was prepared by ethoxylating an unbranched and saturated C₁₁-alcohol with ethylene oxide in the presence of KOH as catalyst in an autoclave at 150°C. After the ethylene oxide had fully reacted, propylene oxide was fed into the autoclave and, after its reaction, the procedure was repeated with ethylene oxide and then with propylene oxide. The resulting surfactant mixture can be described by the formula



[0137] The surfactant mixture has, at a concentration of 0.1 g/l in distilled water, a dynamic surface tension of 47 mNm⁻¹ at a frequency of 1 Hz.

[0138] By means of granulation in a 130 liter plowshare mixer from Lödige, granular machine dishwashing detergents of the composition given in Table 1 were prepared.

Table 1: Granular machine dishwashing detergents [% by weight]

	in accordance with the invention I1	comparative example C1
Trisodium phosphate	30.44%	30.44%
Sodium perborate	3.00%	3.00%
TAED	1.07%	1.07%
Nonionic surfactant*	5.27%	5.27%
Sodium carbonate	54.11%	54.11%
Polymeric cobuilder	3.78%	3.78%
Enzymes	2.22%	2.22%
Perfume	0.11%	0.11%

* In Example I1 according to the invention, the nonionic surfactant described above was used; in the comparative example C1 Poly Tergent® SLF 18 B-45 from Olin was used, which, at a concentration of 0.1 g/l in distilled water, has a dynamic surface tension of $> 60 \text{ mNm}^{-1}$ at a frequency of 1 Hz.

Performance assessment:

a) Film test

To assess the performance of formulations I1 (use of the composition according to the invention) and C1, a film test is carried out in a 65°C universal wash program in a Miele dishwasher converted to operate continuously. For this, the program was carried out without standard commercial rinse aid (storage compartment of the dishwasher empty) and with water hardened to 21° German hardness (bypassing the ion exchanger).

Test conditions

Dishwasher: Miele Konti

Detergent: 45 g metered into the main wash cycle

Water hardness: 21° German hardness

Program: Universal 65°C

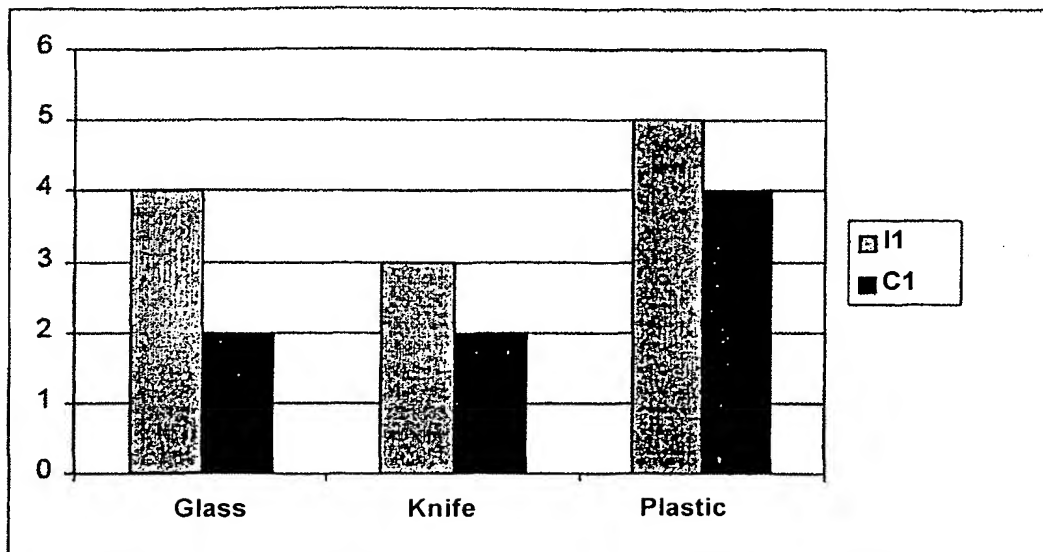
Cycles: 30

Soiling: 50 g of liquid soiling metered into the main wash cycle

Composition: 30% protein
 30% starch
 30% fat
 10% water/emulsifier

[0139] The film test was assessed by visual inspection of the objects in a box whose walls are lined with black velvet, and awarding the grades 0-6. Higher values indicate more film-free surfaces.

The results are given in the graph below:



By preparing two particulate premixes and subsequently compressing them, two-layer detergent tablets for machine dishwashing of the composition given in Table 2 were produced.

Table 2: Two-phase detergent tablets for machine dishwashing [% by weight]

	in accordance with the invention I2	Comparative example C2
Upper phase		
Sodium perborate	10.44%	10.44%
TAED	2.01%	2.01%
Nonionic surfactant*	7.23%	7.23%
Hydroxyethane-1,1- diphosphonic acid, Na salt	0.68%	0.68%
Sodium carbonate	10.04%	10.04%
Benzotriazole	0.12%	0.12%
Polymeric cobuilder	16.06%	16.06%
Phyllosilicate (SKS6®)	1.61%	1.61%
Trisodium citrate	16.06%	16.06%
Sodium hydrogencarbonate	6.02%	6.02%
Lower phase		
Trisodium phosphate	25.42%	25.42%
Enzymes	2.85%	2.85%
Perfume	0.08%	0.08%
Nonionic surfactant	1.37%	1.37%

* In the Example I2 in accordance with the invention the nonionic surfactant described above was used; in the comparative example C2 Poly Tergent® SLF 18 B-45 from Olin was used which, at a concentration of 0.1 g/l in distilled water, has a dynamic surface tension of $> 60 \text{ mNm}^{-1}$ at a frequency of 1 Hz.

b) Clear-rinse test

To assess the clear-rinse effect, the compositions I2 and C2 were used in a universal wash program. For this, the program was carried out without standard commercial rinse aid (storage compartment of the dishwasher empty) and with

water hardened to 21° German hardness (bypassing the ion exchanger).

Test conditions

Dishwasher: Miele G575

Detergent: 24.9 g metered into the main wash cycle

Water hardness: 21° German hardness

Program: Universal 55°C

Cycles: 3

Soiling: 50 g of minced meat soiling

[0140] The clear-rinse effect is assessed by visual inspection in a box whose walls are lined with black velvet, and the grades 0-4 are awarded separately for spotting and filming. The assessment is made in accordance with the following scheme:

Spotting: 4 = no spots
 3 = 1-4 spots
 2 = more than 4 spots, up to 25% of the surface coated with spots
 1 = 25-50% of the surface covered with spots
 0 = more than 50% of the surface covered with spots

Filming: 4 = no film to 0 = very considerable film

	Glass		Stainless steel		Porcelain	
	Spotting	Filming	Spotting	Filming	Spotting	Filming
I2	3.7	2.3	3.8	2.8	3.8	4
C2	3.2	1.0	3.2	1.3	3.8	3.7
	Melamine		PE		SAN	
	Spotting	Filming	Spotting	Filming	Spotting	Filming
I2	3	3	2.2	3.0	2.0	2.3
C2	3	2.3	2.2	1.7	2.0	1.0

The table shows that the formulation I2 is at times significantly superior to formulation C2 with regard to filming, and is at least equivalent with regard to spotting.